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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
1998 Biennial Regulatory Review;	)	**WT Docket No. 98-143**
Amendment of Part 97 of the Commission's	)	
Amateur Radio Service Rules	)	

To: The Commission

COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED

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SUMMARY

The American Radio Relay League, Incorporated (the League), the national association of Amateur Radio operators in the United States, submits its comments in response to the *Notice of Proposed Rule Making* (the Notice), FCC 98-183, released August 10, 1998. The Notice reviews certain Amateur Radio Service rules, seeking to eliminate those that are unnecessary or duplicative, and to examine streamlining initiatives for the Amateur Service. The League's interest is in a comprehensive, efficient and fair licensing structure, and in modernized rules and efficient administration of the Amateur Service.

The Commission in this proceeding has proposed a series of diverse rule changes. It has also asked a series of questions, in response to which it has proposed no specific rule changes.It is most urgent that the Commission not take the specific actions it has proposed, or any actions in response to its generalized inquiries, except as part of a comprehensive plan for the restructuring process. The proposed elimination of the Novice and Technician Plus license classes, though a positive and timely step, should not be accomplished without complimentary changes in the privileges for the remaining license classes.

The League proposes such a comprehensive plan to restructure the license classes. The League's plan has a number of distinct benefits. It would immediately reduce the number of license classes to four, a manageable number which will reflect an individual's incremental growth in the technical and operating self-training components of Amateur Radio. It will provide an opportunity to refarm the HF subbands set aside for Novice use, thus to make more efficient use of amateur HF allocations. It will correct an overemphasis on Morse telegraphy over other communications techniques, while at the same time retaining a minimal level of proficiency in a still-relevant, internationally universal communications skill. It will also allow some revision of question pools for written and telegraphy examinations that better address the types of operation of each particular license class. It may also provide a solution to the issue of telegraphy examination exemption abuses, while avoiding, as must be done, any adverse impact on disabled persons.

The Commission, thanks to the new staff in CIB, appears to be headed finally in a positive direction on the subject of enforcement in the Amateur Service. With the transfer of enforcement jurisdiction in amateur matters to CIB, the matter is best addressed in that Bureau.

The Commission need not discontinue renewing RACES licenses, since it has just implemented a means of accommodation of those licensees in the private sector using volunteers. The Commission must, however, as a priority item, address the RACES issues in the League's long-pending petition for rule making, RM-9115, which seeks rule changes involving RACES stations, mostly to relieve unnecessary restrictions.

The Commission should retain telegraphy examination requirements, but should modify them, reducing the requisite code speed requirements in accordance with the League's restructuring proposal to 5 and 12 WPM. Telegraphy continues to have an important place in amateur communications on HF bands, and all radio amateurs who communicate internationally should have the ability to do so via Morse telegraphy. However, the requirements should be such as to encourage, not discourage, license upgrading and the self-training that is accommodated thereby. Just as important as specifying the speed of telegraphy examination elements, the Commission must specify the means by which those examinations are administered. Elimination of multiple choice testing will improve the examinations and better fulfill the purpose of the examination process.

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COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED

The American Radio Relay League, Incorporated (the League), the national association of Amateur Radio operators in the United States, by counsel and pursuant to Section 1.415 of the Commission's Rules (47 C.F.R. §1.415), hereby respectfully submits its comments in response to the *Notice of Proposed Rule Making* (the Notice), FCC 98-183, released August 10, 1998.[1] This Notice proposes to review, as part of the Commission's comprehensive review of all regulations pursuant to the Biennial Review process, the Amateur Radio Service rules in order to eliminate unnecessary and duplicative rules, and to examine streamlining initiatives for the Amateur Service, separate from those adopted in the Universal Licensing System proceeding.[2] In the interest of the Amateur Service in a comprehensive, efficient and fair licensing structure, and in the interest of modernized rules and efficient administration of the Amateur Service, the League states as follows:

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[1] The Commission's *Errata* in this proceeding was released August 31, 1998 relative to certain portions of the Appendix to the Notice.

[2] WT Docket No. 98-20; See the *Notice of Proposed Rule Making*, FCC 98-25, released March 18, 1998, and the *Report and Order*, FCC 98-234, released October 21, 1998.

I. Introduction and Background

1. The League has engaged in dialog with the Commission's Wireless Telecommunications Bureau (WTB) staff during 1997 and 1998, in the regular course, on the general subject of the structure of Amateur Radio licensing. The current licensing structure has been perceived by many radio amateurs, League members and non-members alike, as overly complex, cumbersome and somewhat outdated. This perception is widely held, and is the result of the inevitable metamorphosis of a licensing structure adopted in 1976 in Docket 20282.[3] Indeed, the Amateur Service regulations governing licensing have been periodically added to and subtracted from over the years since 1976 to accommodate incremental regulatory changes, such as the implementation of the Volunteer Examiner program, and the deletion of the telegraphy testing requirement for the current Technician Class license. There has not, however, been a complete restructuring of the Amateur Service licensing regulations since 1976.

2. The League has been studying simplification of the Amateur Radio licensing structure since early 1996, prior to its commencement of dialog with Commission staff on the subject. At Minute 89 of its January, 1996 Board of Directors Meeting, the League Board instructed a planning committee to make recommendations on, among other things, "various concepts for simplification of the Amateur Radio Service licensing structure." The Board restated its longstanding policy that the League "is committed to the principle that no structural changes should reduce the privileges of existing licensees", and that "maintaining the integrity of the amateur examination and licensing process is essential to the future health and growth of

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[3] See the *Notice of Proposed Rule Making*, 49 FCC 2d 1175 (1974) and the *First Report and Order*, 59 FCC 2d 877 (1976).

Amateur Radio." The Board instructed its committee to solicit membership input and to make an objective determination of the opinions of the membership.

3. Membership opinion was solicited via a questionnaire in the September, 1996 issue of *QST*, the League's monthly journal, and via a mail survey sent to cross-sections of member and non-member radio amateurs. The League published the findings from this study in *QST* in February of 1997. A copy of that article is attached hereto as Exhibit A. The League's planning committee issued a report on its findings concerning license restructuring, and an article on that report was published in *QST* in March of 1997. A copy thereof is attached hereto as Exhibit B. The League's Board studied, but took no action on that report immediately. It was understood, however, that some action, especially concerning the Novice license, was necessary soon.[4]

4. The League, having studied the restructuring issue for the past two and one-half years, feels strongly that the Biennial Review process offers a timely and needed opportunity for simplification of what is now an overly complex licensing structure for the Amateur Service. However, simplification of the rules, without more, does not necessarily benefit Amateur Radio, and should not be the only goal of the Commission in the Amateur Radio Biennial Review process. Simplification and elimination of regulations does not lead inevitably to improvements overall in the licensing process, and in any event, Amateur Radio is largely deregulated now.[5]

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[4] It was noted, for example, that the existing entry-level examinations are structured as though most new amateurs will earn a Novice license, as 90% did prior to the advent of the codeless Technician license. That number is now down to less than 5%, a fact which necessitated some action concerning license restructuring in the near term.

[5] If simplification and reduction of rules was the preeminent goal of the Commission, then having virtually no rules for the Amateur Services would be desirable, because the Amateur Radio Service is essentially an experimental type service. However, given the extensive responsibility of licensees in a service with shared allocations; worldwide communications

Rather, the opportunity offered by the Biennial Review process is to comprehensively restructure the licensing process and the operating privileges incident thereto in such a way as (1) to encourage newcomers to join, and (2) for incumbent licensees to continue the educational opportunities offered by Amateur Radio, all without sacrificing the basic integrity of the Service or the licensing process. The Commission must evaluate not only the license classes, but the operating privileges attendant thereto, in order to benefit the Amateur Service and to realize the goals expected of licensees.[6] Participation in the Amateur Service can be increased, and the benefits of Amateur Radio can be made available to more people. By increased participation, Amateur Radio can provide even more service to the United States than it does currently, with a simpler licensing structure. It is possible to reduce the regulatory burden on licensees, while preserving the opportunities for technical self-training that the Service now offers; the integrity of the examination process as a yardstick for that self-training; and the universal facility to communicate worldwide across language, geographic, economic and political barriers that is still unique to Amateur Radio. Because Amateur Radio license examinations are administered and

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capabilities; the unique capacity for self-training and technical development of licensees; and the ongoing capacity and responsibility for emergency and disaster relief communications, there must be technical and operational qualifications for licensees commensurate with the privileges offered and responsibilities and obligations imposed.

[6] A good example of the difference between merely streamlining the licensing process (as proposed in the Notice) and the more meaningful restructuring of the licensing process (as counterproposed by the League herein) is the means by which the Commission proposes to eliminate the Novice Class license. The Commission's Notice would simply delete the class, but grandfather those licensees who currently hold that license class. This has the detrimental side-effect of leaving fallow the Novice High-frequency (HF) telegraphy subbands, which are now used less intensively than other parts of the same bands. A different plan, one that would "refarm" the Novice class subbands, thus to offer greater inducements to upgrade one's license class, can be done just as simply, and in a way as to benefit the Amateur Service.

coordinated entirely in the private sector, there will be no regulatory burden on the Commission from any changes adopted in this proceeding.

5. During the course of the several meetings on this subject between League representatives and WTB staff over the past year, it was apparent that there was mutual agreement that some revision of the license structure in the Amateur Service is in order. Most especially, the Commission is concerned that the present six classes of license are unnecessary in order to encourage progressive upgrading of amateur license classes through continued self-training and experience with Amateur Radio communications. The League agrees with that assessment. It is apparent from the League's survey that most radio amateurs agree that fewer license classes than six are preferable.[7]

6. The WTB staff also noted that there had been submitted several requests that the Commission review Morse telegraphy examination requirements, in view of what those persons perceive as an overemphasis on telegraphy proficiency in the licensing process. The Commission had also been asked by the League[8] to implement procedures to address statistical evidence of abundant instances of abuses, and the perception of abuses, in the telegraphy examination exemption procedure for severely handicapped persons. One possible approach to that problem

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[7] See Exhibit A. How many license classes there should be, however, is not a subject on which consensus is found. The League's survey found that 22% of the respondents who were League members supported retaining six classes, 17% supported five, 22% preferred four, and 21% preferred three. Very few thought there should be more than six or fewer than three license classes. Since it can be assumed that those who support five or six license classes would prefer four classes to three, it is apparent that a four-tier license structure would be more popular than would a three-tier structure.

[8] See, RM-9196, Petition for Rule Making, filed by the League September 23, 1997; Public Notice thereof, per Report No. 2239, was given by the Commission November 26, 1997.

is to revise the telegraphy examination requirements such that exemptions for handicapped persons are no longer necessary. The Commission is interested in exploring alternative telegraphy examination configurations, to determine whether there exist any unnecessary obstacles to amateur radio access, especially for disabled persons. The League concurs with the Commission's goal, and with the overall assessment that the current examination structure places a strong emphasis on demonstration of Morse telegraphy proficiency, while not requiring demonstrated proficiency in other, more technically advanced, non-manual communications techniques. While there remains an important role for manual telegraphy in international amateur communications, that operating skill should not be overemphasized to the exclusion of other current operating modes.

7. The League is in a beneficial position to comment on the subject of license restructuring. Its Board of Directors is the most widely representative body of Amateur Radio operators in the country. It has carefully studied the amateur licensing structure for the past two and one-half years, and has received input from thousands of League members and non-members alike on the subject. Anticipating the Commission's examination of the licensing process in the Biennial Review context, and based on its surveys of thousands of radio amateurs, members and non-members, the League adopted in July of this year a comprehensive plan for Amateur licensing for the future. This plan was reexamined during the next three months, and the League heard again from thousands of members and non-members concerning the League restructuring plan. Because any license restructuring proposal for this service is highly controversial, the League's Board reconvened to review its July, 1998 plan on October 24, 1998. The result of that meeting was a general reaffirmation of the League's restructuring plan, with some modifications

incorporated herein. Furthermore, the Commission notes at Paragraph 27 of the Notice that it is interested in receiving comments from VECs and VEs on possible modifications to the examination process. The League is by far the largest VEC, and administers twice as many examinations (approximately two-thirds of all examinations administered) as all of the other 13 VECs combined. The ARRL-VEC also participates actively in the question pool committee established among the VECs. Therefore, these comments reflect not only the extensive background and experience of the only national association representative of the interests of all amateur radio operators, with a membership of more than 160,000, and a representative Board of Directors. It represents as well in this proceeding the ascertained interests of amateur licensees and the input of thousands of radio amateurs.

8. During the last several years, League representatives have also repeatedly met with the WTB's Enforcement Division, and with Compliance and Information Bureau (CIB) staff, in an attempt to improve what, until very recently, could only be described as abdication of the Commission's authority and obligation to enforce its rules in the Amateur Service. Until the transfer, late this year, of all Amateur Radio enforcement authority to CIB, there has been essentially no visible Commission enforcement in the Amateur Service for many years. This has had disastrous effects on what all along has been, and generally remains, a highly-compliant radio service. Instances of malicious interference from a persistent few went unaddressed. Dedicated League volunteers who had provided assistance to the Commission in evidence gathering, pursuant to written agreement with the Commission, became frustrated at the Commission's inaction. Painstakingly gathered evidence, representing hundreds of hours of work on the part of volunteer radio amateurs, submitted to the Commission by the League, was

ignored and allowed to grow stale. The regulatory burden on the Commission to provide a "deterrence level" of enforcement in the Amateur Service has always been, and remains, minimal in view of the high level of compliance overall. However, the ability of a tiny minority to disrupt amateur communications worldwide on shared frequencies makes enforcement problems very visible indeed, and the problem, over the past several years, was growing fast. It reduces the attractiveness of amateur radio to young and old alike, and reduces the value of, and respect for, the Service and the Commission. A recent League survey[9] showed the Commission's enforcement efforts to be the most urgent issue in the Amateur Service. The situation was untenable and the League was unwilling to allow it to continue.

9. Because, in early 1997, it did not appear as though the Commission was inclined to improve its dismal record of enforcement in the Amateur Service, the League attempted to further privatize amateur radio enforcement. On March 27, 1997, the League filed a petition for Rule Making, which sought to establish a private sector complaint procedure for initiating Commission adjudication of Amateur Service compliance problems. The Commission took no action on this petition for one and one-half years.[10] Though the Notice in this proceeding seeks

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[9] The League commissioned Smith, Bucklin and Associates, Inc. in Chicago to conduct an amateur operator survey in 1998. The survey was mailed by the League to approximately 3,000 League members and 2,000 non-members, with a return deadline of July 3, 1998. There were 1,510 responses, a 30.2 percent rate of return. The most important issue for both League members and non-members was stated to be "strict enforcement of FCC rules governing on-the-air conduct."

[10] RM-9150 was filed by the League March 27, 1997. Footnote 29 of the Notice in this proceeding incorrectly stated that the League's Petition was filed March 27, 1998. The petition is actually more than one and one-half years old. It is far from apparent why this petition, which the Notice (for the first time) claims has fatal legal impediments, has been allowed to languish in the Bureau for that period of time.

input generally on means by which the Commission could better utilize the services of volunteers in the Amateur Auxiliary, it specifically does not seek comment on the League's petition, or any version or aspect of it.[11]

10. It does not appear, however, that this proceeding is, any longer, a proper vehicle to address the issue of amateur radio enforcement, for several reasons. First, all Amateur Radio enforcement functions have recently been transferred to CIB.[12] As there is strong evidence that the Commission now intends to enforce Amateur Service rules, there is less urgency to establishment of new enforcement procedures. Second, the Amateur Auxiliary program is premised on a written agreement between the League and CIB, not WTB, and any regulatory changes necessary to facilitate Amateur Radio compliance matters should be undertaken only after coordination between the League and CIB. Finally, this proceeding is styled as a Notice of Proposed Rule Making. However, it contains no proposal for modifying the enforcement procedures in Parts 0, 1 or 97 of the Commission's Rules. Therefore, although the League

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[11] The Commission apparently believes that the threshold review of evidentiary material submitted by the private sector to the Chief Administrative Law Judge (CALJ), which would result in designation by the CALJ of a complaint for hearing is not permissible under the Administrative Procedure Act. The League respectfully disagrees, for reasons discussed *infra*.

[12] See, the Commission's News Release, Report No. CI 98-17, released September 25, 1998: *FCC Announces Shift in Amateur Radio Enforcement Functions*. The League has noted a marked improvement in both the Commission's response to Amateur enforcement matters and the visibility of the Commission's interest in compliance since the arrival of Chairman Kennard, and the appointment of Mr. Richard Lee as Chief of CIB. Mr. Lee has been both efficient and effective in restarting amateur radio compliance considerations. The League commends Mr. Lee most highly, and commends as well the good work in recent weeks of Mr. Riley Hollingsworth. The Chairman's new, and refreshing emphasis on enforcement generally is being well-reflected in the work of Mr. Lee and Mr. Hollingsworth on amateur matters. It is the League's hope and expectation that this trend will continue, and that Messrs. Lee and Hollingsworth will be allowed to continue the fine work they have commenced, without administrative impediment.

continues to believe that there is good and sufficient justification, both as a legal matter and as a policy matter, for its plan for a private complaint procedure for initiating adjudication of enforcement proceedings in the Amateur Service, (and will reassert that plan in the event that current enforcement circumstances change at a later date) that petition was based on circumstances that now appear changed for the better. There has been a marked improvement in the outlook for Commission enforcement in the Amateur Service in the past few months since the transfer of jurisdiction over amateur enforcement to CIB. It is suggested, therefore, that the enforcement portion of this proceeding should be terminated without action, but without prejudice to the refiling of the League's petition at a later date.

11. In general, the Notice in this proceeding does not take full advantage of the opportunities offered by the Biennial Review process. The Commission has stated that its intention herein is "to examine our rules for the Amateur Radio Service in an effort to eliminate unnecessary and duplicative rules, as well as to streamline our licensing processes" and as well to "examine streamlining initiatives for the Amateur Radio Service." The Notice does not, however, contain a comprehensive license restructuring proposal or even an overall review of license restructuring. Nor is it in any sense a comprehensive review of amateur rules. Rather, it is more a group of several specific rule change proposals and a series of generalized inquiries, aimed at the singular goal of reduced regulations.[13] The document would have more

[13] As discussed above, Biennial Review in the Amateur context should be viewed differently than in other radio services. The Commission does very little in the way of amateur regulation or administration any longer. Simplification, or "streamlining" of the few rules remaining *per se*, if conducted on a rule-by-rule basis, is, therefore, largely unnecessary. The instant Notice lacks, however, a comprehensive "Master Plan" for license restructuring. The League's plan offers such, and it is offered herein *in its entirety* in that spirit.

appropriately been labelled a combination Notice of Inquiry and Notice of Proposed Rule Making. The Notice is not stated in a way as to lead to adoption of rules on several of the topics. Given the foregoing, the Commission has, in the Notice, missed the mark relative to its intentions.

II. The League's License Restructuring Proposal

12. Anticipating, as the result of its discussions with Commission staff, the review, contained in the Notice, of amateur radio telegraphy examination issues and the proposed deletion of the Novice Class license, the League's Board of Directors determined that any review of those issues should be coupled with a complete review of license classes, license privileges, and High-Frequency (HF) telephony and telegraphy/data subbands. These issues are inextricably interrelated, due to the significant focus of most licensees above entry-level on HF communications, and the incremental increases in operating privileges that are offered in those bands as consideration for increases in self-training and operator skills. Prior, therefore, to analysis herein of the specific issues raised in the Notice, the League offers its own considered, extensively refereed, proposal for license restructuring in the Amateur Service.

13. This proposal was adopted in July of 1998 by the League's Board of Directors and, as discussed above, refined in October of this year following extensive input from amateurs, both League members and otherwise, and from prospective amateurs as well. It is believed that the proposal represents a reasonable means of encouraging entry-level amateurs to continue on a path of technical and operational self-training without an overemphasis on manual telegraphy skills; it is an appropriate reduction in the number of license classes to simplify the license structure and reduce unnecessary regulation while retaining the stepped process of incentives for

self-training; it provides a means of increasing the exposure of licensees to all of the varied aspects of amateur radio worldwide communications; it is a means of "refarming" the amateur HF allocations by license class to provide more efficient use of those bands and to increase the incentives to upgrade one's license class at all licensing levels; and it is a means of ensuring for the benefit of the public a larger pool of persons skilled in providing public safety, public service, disaster and emergency communications and fostering international goodwill. The proposal was first discussed in detail in the September, 1998 issue of *QST*. A copy of that article is attached hereto as Exhibit C. Refinements of the proposal were discussed in detail in the December, 1998 issue of *QST*. A copy of that article is attached as Exhibit D.[14]

14. The League's proposal is premised on the belief that the Amateur Radio Service no longer requires six different classes of license in its license structure. A simplified structure with four classes is preferable. The plan suggests four written examination elements to establish amateurs' operational and technical qualifications instead of the present five, and two telegraphy examination elements instead of the present three. The League's Board considered and actively debated a wide variety of options including both smaller and larger numbers of license classes, higher and lower qualification levels, and different privileges. The revised proposal was unanimously adopted by the League's Board of Directors. It should be considered by the Commission a "refereed" plan, unique in that respect, and one therefore which is representative of the interests of all amateur licensees. It is proposed for consideration and adoption in its entirety, in lieu of the incremental rule changes proposed in the Notice. The rules set forth in

[14] Please note that, in that article, references in Table 1 to "Class A" and "Class B" should be to "Extra Class" and "Advanced Class" respectively.

the attached Appendix are those which would be changed of necessity in order to implement the proposed restructuring plan. The League's identified objectives for license restructuring, not necessarily in order of importance, were as follows:

(A) No privileges of existing licensees should be reduced.

(B) Testing should be related to privileges, and should place greater emphasis on operating practices and on current technologies.

(C) The number of license classes should be reduced.

(D) The entry level license should be attractive to potential amateurs, and especially to younger people.

(E) Experimentation should be supported and encouraged.

(F) Rules that result in the underutilization of parts of some amateur bands should be removed.

15. Under the plan, the entry level to Amateur Radio would be exclusively the Technician Class[15]. It would convey the privileges of the present Technician license, but in addition, it would entitle licensees, without any telegraphy test, to utilize telegraphy on General Class high-frequency (HF) telegraphy subbands, at 200 watts power output. The written examination would be at the same level of difficulty as that of the present Technician

[15] The League had originally considered alternative appellations for the various license classes, for purposes of distinction from the present names of license classes, thus to delineate the significant changes in the license structure and operating privileges from those currently in place. However, it became apparent that there are emotional attachments among amateur licensees to the license classes earned over time. The League has no intention to detract from the achievements of existing licensees. Because these achievements are, quite reasonably, identified by reference to current license class titles, the League now urges retention of the use of the Technican, General, Advanced and Extra Class designators in any revised rules. The only modification proposed is to change the title "Amateur Extra Class" to "Extra Class" so as to make the title consistent with that of the other license classes.

examination, but would be changed in order to more specifically address the privileges of the license. The rather innovative plan to permit Technician Class licensees to operate on HF bands using Morse telegraphy without an examination is discussed below.

16. The next step would be the General Class license. It would retain all current operating privileges, but with telephony subbands expanded by 50 kHz in the 3.5 and 21 MHz bands and by 25 kHz at 7 MHz. This license class would be the entry level to HF telephony operating privileges. To upgrade from Technician to General, an amateur would pass a written examination on the operational and technical qualifications required for HF operation other than telegraphy, and a 5 word-per-minute telegraphy examination (instead of the present 13 word-per-minute examination required now for General Class licensees). All amateurs now licensed as General, Technician Plus, and Novice would become General Class licensees.[16] The expansion of the telephony sub-bands would result from "refarming" of the Novice Class telegraphy subbands that are no longer required for their original purpose, and which, redistributed among the license classes, can serve as a significant incentive to upgrade one's license class.

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[16] It is recognized that this constitutes an "instant upgrade" of existing Novice and Technician Plus licensees without an additional examination element. However, it does not constitute a significant change: Novice and Technician Plus licensees have each taken and passed a 5 WPM telegraphy examination, and each has taken written examination elements (present element 2 for Novices and present elements 2 and 3(A) for Technician Plus licensees) that address HF operating privileges and the technical concepts and safety issues inherent in HF operation. Novice and Technician Plus licensees have been authorized to use Single Sideband telephony and digital emissions in portions of the 10-meter band for more than a decade. Many Technician Plus licensees have also passed the same written examination element that would have earned them a General Class license had they previously taken a 13 WPM telegraphy examination. It is also administratively efficient to assimilate existing Novice and Technician-Plus licensees into the General class, rather than grandfathering them, so as to permit the "refarming" of the presently-underutilized Novice Class HF subbands. Such refarming is critical to any comprehensive license restructuring proposal.

17. The third step would be the Advanced Class license, and would convey the privileges of the present Advanced Class license, but with telephony subbands expanded by 50 kHz in the 3.5 MHz and 21 MHz bands and by 25 kHz in the 7 MHz band. To upgrade from General to Advanced Class, an amateur would pass a more advanced written examination similar in difficulty to the present Element 4A examination, and a 12 word-per-minute telegraphy examination. All amateurs now licensed as Advanced would remain at that level. Any current General Class licensee, having already taken and passed the 13 word-per-minute telegraphy examination, will of course not have to retake a telegraphy examination to obtain an Advanced Class license.

18. The final step would be the full-privilege Extra Class, with telephony sub-bands expanded by 50 kHz in the 3.5 MHz and 21 MHz bands, and by 25 kHz in the 7 MHz band. To upgrade from Advanced Class to Extra Class, an amateur would be required to pass the most substantial written examination in the sequence. Consistent with the practice in many other countries, no additional telegraphy examination would be required beyond 12 words per minute. All amateurs presently licensed as Amateur Extra Class would, of course, remain Extra Class. No change in the license document would be required for any license.

19. As noted above, the League's objective in proposing this comprehensive plan is to rationalize and simplify the amateur licensing structure, but it must be done without reducing the technical knowledge required for any class of license. Therefore, where reductions in telegraphy requirements are proposed, there is proposed a corresponding increase in substantive written examination standards. The League strongly intends that written examinations must be modified as necessary to better demonstrate the depth of an applicant's current radio technical

knowledge and operating skill. On the other hand, the League firmly believes that simplifying the structure should not come at the expense of privileges already earned by amateurs. Therefore, present Novice and Technician Plus licensees, having earned entry-level HF operating privileges, would be granted the new, General class, entry-level HF telephony license, and afforded increased operating privileges in the process. This is not to suggest that the examinations would become more difficult. They would, rather, be made more comprehensive relative to the subject matter on which the candidate is examined. The changes in the question pools would be made by the question pool committee of the VECs, and need not concern the Commission from a regulatory perspective.

20. It is most important, however, that the Commission retain in the rules an updated version of the Section 97.503 examination element standards, in order to assure standardization of examinations, and fairness for all applicants, regardless which VEC coordinates a particular examination, or which VEs administer it. This matter is discussed below.

III. Restructuring of License Classes

21. As the Notice specifies at Paragraph 11, there are now six classes of amateur license. The Commission notes that this structure requires that volunteers coordinate and administer numerous different written examination elements and telegraphy examinations. Once those are passed by the candidate, the Commission must issue revised license documents. The candidate must sit for numerous examination elements. Thus, the Commission asks whether the number of examination elements can be reduced.

22. The Commission claims that the Novice class license was developed in 1951, "a time when telegraphy was still a common mode of radio communication" in other services. The

inference that the Novice Class license is connected with telegraphy in non-amateur radio services is misleading. The Novice Class license was a means of entry in Amateur Radio for those interested in HF operation generally, not just telegraphy. It was a preface to the General Class license, while the purpose of the Technician Class was originally for those interested in VHF and UHF operation, a different aspect of Amateur Radio. The Novice Class license was not intended to be a means of entry for those who "preferred" telegraphy communications. It is not a necessary entry level amateur license class, and it has not been since the advent of the "codeless" Technician class license, which allows the candidate to obtain his or her first amateur license with substantial privileges based on a written examination alone.

23. The League's survey did not provide any mandate for radical change in the number of license classes other than elimination of the Novice class license. Few respondents (11%) supported a structure with fewer than three license classes. As noted above, the majority of the League's survey respondents showed a strong preference for more than three license classes, while only 21% preferred three tiers. The League's Board concluded that, since the codeless Technician class license provides a relatively simple means of entry into the Amateur Service, as well as the overwhelming preference for newcomers to the Service, it should become the sole entry level license class. There is a perception, however, that Technician Class licensees have shown little propensity to upgrade their license class. They tend not to make the transition between VHF and UHF amateur operation and HF operation. The League suggests that this is due: (A) to the lack of exposure of such licensees to HF operation, and (B) the fact that Technician privileges do not provide a sufficient exposure to HF operation to create the incentive to make the transition. Nor do the incremental Technician Plus privileges in the HF bands

(limited telegraphy privileges, coupled with some telephony privileges in the 10-meter band) provide enough incentive to make that upgrade transition attractive to Technician Class licensees. The League's proposed reduction in telegraphy examination speed for the General class license, from 13 words-per-minute to 5 words-per-minute, coupled with its proposal to permit limited HF telegraphy privileges for Technician licensees (in the General Class band segments where telephony is not permitted, with a transmitter power not exceeding 200 watts) should cause more Technician class licensees to upgrade to General class. As to the latter proposal, the League believes that the best means of exposing Technician class licensees to HF operation and to telegraphy, and to allow them to learn slow-speed telegraphy in the most effective and interesting manner, is to actually allow them to conduct such operation in a flexible, but limited basis.[17] Finally, since there was a simple entry to HF operation for use by those whose interests are primarily in HF operation, the League did not want to eliminate that option. Allowing Technician Class licensees to utilize HF telegraphy is a means of retaining that flexibility for those who otherwise would have obtained a Novice Class license as their first amateur

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[17] In making this proposal, the League is well-aware of the international treaty requirement in Article S25 of the Radio Regulations that a person seeking an amateur license be required to prove that he or she is able to send correctly by hand and to receive correctly by ear texts in Morse Code signals (a requirement that can be waived for stations making use exclusively of frequencies above 30 MHz). However, allowing "codeless" Technician licensees to operate on HF bands using only telegraphy is both self-limiting and self-proving: a Technician class licensee cannot make use of those privileges without knowing how; and the actual use thereof is a demonstration of the ability to conduct two-way communications with texts in telegraphy. Since actual two-way amateur communications on the air, an interactive experience, is both the most interesting means of acquiring proficiency in telegraphy, and at the same time the quickest means of improving such proficiency, the League believes that this additional privilege will encourage the elimination of what presently appears to be a transitional gap between the Technician class licensees and other amateur licensees, and will provide a reasonable substitute for the Novice Class license.

license.[18]

24. The Technician Plus Class license was a means of accommodating the HF operating privileges earned by holders of Technician class licenses prior to the creation of the codeless Technician license class; to provide a means for Novices to upgrade to Technician class without loss of HF telegraphy privileges; and to allow Technician class licensees a means of utilizing HF operating privileges by passage of a 5 word-per-minute (WPM) telegraphy examination. The Notice, at paragraph 13, proposes to "phase out" the Technician Plus license. The Commission notes that those Technician Plus licensees who hold a Technician license granted before March 21, 1987 have previously passed the written examination for a General Class license, and the remainder could take and pass an element 3(B) examination, consisting of 30 questions, and a 13 or 20 word-per-minute telegraphy examination. The Notice seeks comment on this proposal.

25. The League is supportive, as can be seen from its plan, of the elimination of the Technician Plus license class, and of reducing the overall number of license classes thereby. As can be seen from an analysis of the League's plan, the means of reducing the number of license classes from six to four is by eliminating the Novice and Technician Plus license classes, just as the Commission would do. However, the means of accomplishing this differs substantially between the League's proposal and the Commission's proposal. It is suggested that the "phasing out" of the Novice and Technician Plus class licenses, as the Commission proposes, is not the proper way to proceed for a number of reasons. A critical part of the license restructuring

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[18] Professional educators inform the League that young persons have a far easier time learning Morse telegraphy than do older persons. Having an entry level into Amateur Radio that permits young people to learn that skill in a comfortable, interactive environment is important for these persons especially.

process is the refarming of the largely fallow Novice Class HF subbands at 3.675, 7.1, and 21.1 MHz. There are only two ways to accommodate the deletion of the Novice and Technician Plus Class licensees: One is by eliminating both classes, assimilating current licensees into the General Class and refarming the Novice Class HF subbands. This allows the creation of added operating privileges as incentives to be included in the General, Advanced and Extra Class license classes, by making additional HF telephony spectrum available to holders of those license classes. The other (the "phasing out" plan) is by simply ceasing to issue new Novice and Technician Plus licenses, but to retain existing licensees in those classifications in the Rules. This would necessitate the maintenance of a separate description of the privileges that exist for those licensees, and references to them. This is administratively cumbersome and complicated. It is antithetical to the Commission's goal in this proceeding, which is to streamline and simplify the Commission's regulations.

26. The League's proposal is administratively simple, and provides a smooth transition to upgrading between the Technician Class and General class, by reducing the telegraphy examination speed for the General Class license from the present 13 WPM to 5 WPM; by permitting flexible telegraphy HF privileges to Technician Class licensees; and by substantially increasing the telephony privileges now available in certain amateur HF bands for General, Advanced and Extra Class licensees, as the result of "refarming" of the HF spectrum formerly available to Novice and Technician Plus Class licensees. The Commission's proposal for "phasing out" by grandfathering Technician Plus and Novice Class licensees (and eliminating the Novice license class), does not include any means of putting to better use the Novice Class HF telegraphy subbands. The transition between codeless Technician and General Class is, as

discussed above, an extremely important step in encouraging technical self-training.

27. Much is made of the large number of codeless Technician class licensees relative to other license classes, but the League's study of the matter does not indicate that this is due to any preference on the part of those licensees to utilize VHF and UHF privileges, to the exclusion of interest in HF operation. Rather, the indication is that the step between introductory amateur operation at VHF and UHF, and the next higher license class, which permits significant HF telephony and telegraphy privileges, (and which now requires a 13 WPM telegraphy examination) is and has been too great. The League is very much concerned that, as it stands now, large numbers of codeless Technician licensees are not upgrading their license class, and many are not maintaining an interest in Amateur Radio as the result. As the Commission states, the ability of a Technician Plus licensee to upgrade to General class at the moment requires the element 3(B) examination, and as well a 13 WPM telegraphy examination. If that telegraphy examination is reduced to 5 WPM, the transition to substantial HF operating privileges would be less daunting. It would provide substantial exposure of the licensee to the full panoply of amateur radio opportunities, and would be done without an unreasonably high examination hurdle.[19] In addition, permitting codeless Technician licensees an opportunity to operate HF telegraphy on a limited basis, without imposing an examination requirement, will permit licensees to learn and improve their telegraphy skills on the air, which is the most efficient and

[19] As a matter of general philosophy, the examination elements for Amateur licenses are not the ultimate goal in amateur licensing, particularly at the entry level. They are, rather, and should be perceived as minimum requirements, which are taken and passed in order to open the door to technical and operational self-training in RF and digital communications. It is that self-training, and the learning environment of the medium itself, that is the goal of the licensing process. The examination elements should be viewed only as minimum matriculation requirements.

enjoyable means of doing so.

28. In sum, the Commission's proposals to delete the Novice license class and to phase out the Technician Plus class (as a means of reducing the number of license classes) are on the right track, but they don't adequately address two significant issues inherent in license class restructuring. The first is the refarming of the underutilized Novice subbands. The second is the creation of a smooth transition between the Technician entry level license and the next higher (intermediate) license class. The League supports the reduction of the number of license classes from six to four, and strongly urges that it be done in accordance with the League's restructuring plan.

IV. Elimination of the Novice License

29. The Commission asks, at paragraph 12 of the Notice, what disposition should be made of the Novice bands if Novice licensing is discontinued. The League's proposal includes a comprehensive plan for such, as can be seen from the graph in Exhibit C hereto, and in the attached Appendix. In short, the General class licensees would receive authority to use telephony subbands at 3800-3850 kHz, 7200-7225 kHz, and 21,250-21,300 kHz, in addition to those segments now available to current General class licensees. Advanced class licensees would receive authority to use additional telephony subbands at 3725-3775 kHz, 7125-7150 kHz, and 21,175-21,225 kHz. Extra Class licensees would receive authority to use additional telephony subbands at 3700-3750 kHz, 7125-7150 kHz, and 21,150-21,200 kHz.

30. The Commission next asks whether, if it discontinues new Novice licensing, it should delete the frequency limitations for Novices and the power limitations applicable to Novice subbands, so that Novices could operate anywhere in the telegraphy subbands at 200 watts input

power, but could use telegraphy anywhere in the 80, 40, 15 and 10-meter bands. This is an interesting idea in several respects, but the League suggests that the Commission should not proceed in this manner. It makes good sense to expose amateurs to all aspects of amateur HF operation, and to allow newcomers to communicate with higher class amateur licensees generally. The League's restructuring proposal would accomplish the same goal in a more orderly fashion, however, by granting General class licenses and privileges to existing Novice and Technician Plus Class licensees on a one-time upgrade basis.

31. A significant drawback of the suggestion in the Notice is that it would allow Novice telegraphy in all of the telegraphy subbands, including the small segments at 80, 40, 20, and 15 meters that are reserved for the highest class licensees. Those small exclusive segments continue to serve as an important incentive for numerous amateurs to upgrade their license class. The League believes its restructuring proposal offers a more straightforward plan, which involves far fewer complexities and no "holdover" issues inherent in "phaseout" plans for deleted license classes. The League's plan also preserves present incentives for further self-training. The more interesting potential application of the Commission's concept of allowing "blanket" telegraphy privileges is the League's plan to permit codeless Technician licensees to utilize telegraphy on General class telegraphy subbands in addition to their VHF and above privileges, as discussed above.

32. The elimination of the Novice license should be done as the League has suggested, by upgrade of all present Novice (and Technician Plus) licensees to General class. This procedure, and only this procedure, will allow the immediate "refarming" of the largely fallow Novice telegraphy subbands, and will facilitate the grant of increased telephony subband

privileges to other classes of licensee. The elimination of the Novice license will permit restructuring of the written examination for the Technician class license so that its content is properly configured to the operating privileges conveyed by the license, and oriented toward entry-level operating skills.

V. Greater Volunteer Examiner Opportunities

33. At paragraph 14 of the Notice, the Commission proposes, in response to the League's Petition for Rule Making (RM-9148, filed October 28, 1996) to permit Advanced Class licensees who are Volunteer Examiners (VEs) to prepare and administer examinations for General Class operator licenses. The Commission agrees with the League that this relaxation of restrictions is consistent with the Communications Act of 1934, as amended,[20] and thus, on its own motion, proposes to permit General class licensees to prepare and administer examinations for Technician class operator licenses. Examiners would be permitted to administer only elements that they themselves have passed. The public interest is served by having a larger pool of available VEs for particular examination classes.

34. The League continues to support allowing Advanced Class licensees to adminster General Class examination elements. However, the Commission need not have proposed any change in administration of examinations by General class licensees, since it allowed General Class licensees to administer Technician class examinations in 1985, and currently allows such in the Rules (See, Section 97.509(b)(3)(i). See also the *Report and Order*, 8 FCC Rcd. 3181, at 3183 (1993). This fact was noted also in the League's petition, RM-9148, at p.3.

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[20] See, 47 U.S.C. §154(f)(4)(A).

35. The ARRL-VEC has in the past, and continues, to receive requests from Advanced Class VEs seeking to volunteer for VE teams to administer General Class license examinations. The rule change proposed would permit these Advanced Class licensees to administer a significant number of additional examinations, thus creating additional opportunities for operator license class upgrading. The League requests that this issue be resolved at the earliest possible time by permitting Advanced Class licensees to administer General class license examination elements.

VI. RACES Station Licenses

36. The Commission next proposes to phase out Radio Amateur Civil Emergency Service (RACES) licenses by not renewing them. The Commission has not issued new RACES station licenses since July of 1980 [47 C.F.R. §97.17(g)]. There are presently only 611 RACES licenses outstanding. The Commission stopped issuing new RACES licenses in order to save manpower, and proposes to save additional resources by not renewing the few remaining RACES licenses hereafter.

37. It is true that the RACES program, largely administered by the Federal Emergency Management Agency, and state and local offices of emergency preparedness and civil defense organizations, does not require FCC-issued RACES licenses in order to function. If the Commission decides to proceed with the Notice proposal herein to delete RACES licensing, there will be little practical effect on amateur emergency communcations. There are changes to the Commission's RACES rules that are urgent and necessary, however. These include review of rules governing intercommunication between RACES stations and other amateur stations engaged in support of disaster relief and other emergency communications. The Commission has

had before it since March 12, 1997, a Petition for Rule Making filed by the League (RM-9115; See the Public Notice, Report No. 2206, released June 19, 1997) seeking several important rule changes involving RACES stations, most of which constitute a relief of unnecessary restrictions. It is unclear why, since the Commission has addressed RACES regulations in two recent rulemaking proceedings, none of the issues raised in RM-9115 has been addressed. The League requests that the Commission address the more urgent, practical issues involving RACES before deciding whether or not to continue to renew 611 residual RACES licenses.

38. However, it is unclear why the Commission in this proceeding proposes to eliminate the remaining RACES licenses, and yet, in the Universal Licensing System (ULS) proceeding, WT Docket 98-20, just decided to use certain eligible private sector entities, on a volunteer, uncompensated and unreimbursed basis, to issue amateur club and military recreation station call signs. The Commission indicated in the Notice of Proposed Rule Making in the ULS proceeding that the sole function of club, military recreation station and RACES licenses was to authorize a unique call sign in the station identification procedure. It does not authorize any operating privileges. Therefore, pursuant to the Commission's authority contained in Section 4(g)(3)(B) of the Communications Act, the Commission proposed to utilize Section 501(c)(3) organizations to issue such call signs on a batch electronic filing basis. If private sector volunteer entities are administering club and military recreation station call signs, it is difficult to understand why it is necessary to cease renewal of extant RACES station licenses, or why issuance of new RACES station licenses cannot be recommenced through this same system.

VII. Privatization of Certain Enforcement Procedures

39. As noted hereinabove, the Notice gives lip service to the League's plan for more efficient enforcement action, when needed, in the Amateur Service. The League's Petition, RM-9150, set forth a comprehensive plan for increased use of volunteers in bringing and prosecuting private sector complaints in amateur malicious interference cases. The Commission has effectively dismissed this petition without saying so, at paragraph 18 of the Notice. The Commission states that the League's proposal "appears inconsistent with the statutory provisions governing the role of administrative law judges."[21]

40. Fortunately, as discussed above, there appears to be a "new dawn" in Amateur Service compliance efforts by the Commission. The League is encouraged by the recent acceptance by CIB of the responsibility to get amateur enforcement "back on track". The League will utilize its resources to assist Mr. Lee and Mr. Hollingsworth in this process, and for the

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[21] The League was well-aware of the statutory requirements involving Administrative Law Judges (ALJs) when it prepared and filed its petition, and League representatives have had numerous discussions with both the then-Chief Administrative Law Judge and with the Wireless Telecommunications Bureau staff on the subject in the one and one-half years since the filing of the League's Petition. In fact, a substantial basis for the Petition was a suggestion along the same lines from one of the Commission's ALJs.

It is well-understood that the ALJs' (and the Chief ALJ's) roles are limited by statute to "hearing functions", but at the commencement of any Commission administrative hearing, one component of the hearing function is the threshold matter of evaluating evidence submitted to determine whether there are or are not substantial questions of fact necessitating a hearing and whether, therefore, the hearing should go forward or not. If the only concern about the League's plan was the means by which the hearing proceedings are designated, or the means by which a show cause order would be issued, that surely is an easy matter to address in any of several alternative procedures. Instead, the Commission simply abandoned the entire concept. The effective dismissal of the League's petition appeared to be the functional equivalent of a statement that the Amateur Service should accept what was then the *status quo*. Fortunately, since the release of the Notice, CIB has changed the *status quo*, hopefully permanently, for the better.

near term, it is reasonable to withhold any further action on amateur enforcement, and allow CIB to continue its work. The filing of the League's petition was from a sense of despair over WTB inaction in enforcement proceedings. Indeed, there have been more amateur enforcement actions taken by CIB in the past two months than in the previous five years. The League therefore is satisfied with the policies of the current Chairman, and with the encouraging attitude of CIB in recent months. It is suggested, however, that the Commission continue to place a higher priority on Amateur enforcement actions than it has in the past. It must attempt to work with the League's Amateur Auxiliary volunteers, who cannot any longer be asked to devote their time and effort to an activity which the Commission has previously allowed to be wasted.

VIII. Telegraphy Examination Requirements

41. At paragraphs 19 through 25 of the Notice, the Commission asks whether the telegraphy requirements for amateur licensing continue to be relevant, what the speed requirements should be, and whether, if the telegraphy examination requirements are reduced, the written examination elements should be modified to address other communications techniques. The Commission premises this review on its presumption that there have been notable changes in technologies that amateurs use to communicate generally, and that this includes a "deemphasis" on Morse telegraphy in on-air amateur operating. It also notes that there has been a decrease in use of telegraphy as a communications mode in non-amateur communications and services. Finally, it notes the continued international treaty requirement (RR S25.5) for demonstration in sending and receiving Morse telegraphy as a condition for HF

amateur licensing,[22] and that the requirement does not incorporate any particular speed requirement for the sending or receiving proficiency.

42. The Commission makes extensive reference in paragraph 23 of the Notice to the League's survey, which shows that a majority of League members (63%) favored retaining the telegraphy requirement for amateur licensing in the international regulations, while 30% felt that the Morse requirement for amateur radio licensing is no longer relevant, or soon will not be relevant, as an international regulatory requirement. Among all amateurs surveyed, including non-members, retention of the Morse code requirements was favored by 57%. That portion of the survey is not directly relevant to the instant inquiry of the Commission, since the international radio regulations remain an obligation of the Commission that cannot be waived. However, the survey results indicate that there is a strong perception among amateurs generally that some telegraphy examination requirement remains relevant.

43. The continued popularity of telegraphy is exhibited at all times in any cursory tuning through the HF amateur allocations. There is a substantial amount of regular use of telegraphy on-air, and no indication that there is a "deemphasis" on amateur use on-air of telegraphy. The continued benefits of this communications mode include the ability to cross language barriers using regularly understood telegraphy "shorthand" (a critical component of the amateur's proven ability to enhance international goodwill), and the ability to overcome physical disabilities in

[22] Consideration of the international Morse code telegraphy proficiency requirement is stated in the Notice to occur in 2001; in fact, due to the postponement of the 1999 WRC to 2000, the soonest that the S25.5 requirement could be reviewed will be 2002, and more likely it will be 2003.

order to conduct international and domestic communications.[23] Amateur Radio is available to many severely disabled persons solely because of the widespread use of telegraphy among radio amateurs. It is a useful manual operating skill that has continued relevance in international amateur communications, and has application in weak-signal propagation research and studies, and in certain emergency communications contexts. While it should not be overemphasized in the licensing process, no one should doubt its continued relevance in amateur radio communications on a regular basis, and it should be continued as a requirement for amateur radio licensing above the entry level.

44. The Commission, however, properly focuses its inquiry on the speed at which telegraphy examinations ought to be conducted, and whether there should be three, two, or one tier of telegraphy examination. There is little doubt that, given the advent of new digital communications technologies in the Amateur Service, the current licensing structure places an overemphasis on telegraphy proficiency as a licensing tool. Following the League's philosophy of amateur licensing as a gateway to self-training in technical and operational communication skills rather than as an ultimate goal, the League's restructuring proposal reduces the proposed code speeds to 5 and 12 WPM instead of the current three-tier, 5, 13 and 20 WPM examination elements. The League premised the change on several concepts. The 12 WPM speed is equivalent to the highest telegraphy speed requirement for full-privilege licenses in many other

[23] This is a fact glossed over by those who wish to eliminate Morse telegraphy testing as an examination element; while some radio amateurs who are severely disabled require extensive procedural accommodations, routinely provided by VEs, in order to demonstrate telegraphy skill, and some may even require exemptions based on physician's certificates, some severely handicapped persons are able to communicate only by telegraphy, given the nature of their handicap. Morse telegraphy is, for these persons, the only shared means of amateur radio communication.

countries especially in Europe. It equates to 60 characters per minute, or one per second, based on five-letter code groups. This is a reasonable level of proficiency for anyone seeking full amateur privileges, and the higher levels of accomplishment in Amateur Radio. It encourages self-training, without constituting a barrier to enjoyment of full amateur privileges.

45. The 5 WPM level is not a significant obstacle to anyone seeking an amateur license. Certainly enough, the Commission can cite instances of claims that some "cannot" learn 5 WPM Morse telegraphy, or that disabilities preclude passage of a telegraphy examination, but those claims discount the extensive procedural accommodations available from VEs for anyone with a disability. That telegraphy speed would be the threshold for the General Class license, which would entitle the holder to utilize all HF operating privileges on most portions of all HF bands. This provides, as discussed above, a smooth transition between the Technician and General license classes. It should encourage most radio amateurs to progress beyond the entry level license class, and permit everyone to enjoy all facets of Amateur Radio.

46. The Commission also sought comment on its tentative conclusion that the League's proposal for eliminating instances of abuse of the 13 and 20 WPM telegraphy examination exemptions for severely handicapped persons should not be adopted. The League does not believe that this issue is the proper basis for calculating telegraphy examination requirements generally. Abuses of the telegraphy examination exemption for handicapped persons are an enforcement issue, and always have been. The Commission does not believe that the rule changes proposed by the League in RM-9196 (filed September 23, 1997) are appropriate, in view of concerns about privacy and burdens on disabled persons. The League never intended (and its petition *very specifically* disclaimed any intent) to place any additional burden on

disabled persons. However, it is statistically obvious that there are and have been regular and substantial abuses of the exemption procedure, and the matter begs for a solution. The abuses discredit severely handicapped persons who require the exemptions, and they are unfair to legitimately licensed amateurs. These abuses were specifically forecast by the League, and many other commenters, when the physician's exemption process was instituted in the first place. Such was inevitable, given the Commission's reliance on physician certifications, which have been, as a matter of policy, afforded no review whatsoever.[24] [25] Now that the problem has materialized, the Commission seems to regard it as an indication that telegraphy requirements are no longer relevant overall. The conclusion does not follow from the facts. Telegraphy exemption abuses are identical to other forms of cheating on amateur examinations. There is no difference. Misrepresentations to the Commission concerning a nonexistent physical disability, made in order to obtain a license by fraudulent means, do not justify a change in license requirements. They indicate, rather, that the perpetrator does not possess the character qualifications to be a Commission licensee. The League continues to believe that this is a

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[24] There are several reasons for this. First, though the Commission's physician information narrative in the FCC Form 610 (now, after the ULS proceeding, Form 605) is well-stated and clear, it is apparent that physicians, already burdened with excessive paperwork, are unlikely as a practical matter to concern themselves with the details of a patient's request for certification that the patient need not undertake a Morse Code examination for a non-commercial radio license. Second, until recently, there was every indication that the Commission was conducting no enforcement activities whatsoever, and did not intend to proceed against any such abuses of the process.

[25] Again, the new CIB enforcement efforts may provide a long-needed solution to the issue. On November 18, 1998, CIB set aside an application to upgrade a license from Technician Plus to General Class by means of a physician's exemption, where the Commission had consulted with the physician and determined that the representations of the applicant were not valid. Should this improved enforcement effort continue, the abuses of the exemption process will likely diminish.

significant enforcement problem which should not be allowed to continue. While the Commission is disinclined to adopt the League's suggestions for addressing these abuses, it is obligated to address instances of misrepresentation made by licensees and candidates for licenses, pursuant to 47 U.S.C. §309(a) and (e) by designation of such licenses and applications for hearing, or by issuing monetary forfeitures for the misrepresentation.

47. Notwithstanding the foregoing, and independent of the level of enforcement, the League's license restructuring plan would substantially reduce the potential for abuse of the exemption process. The Commission has not in the past waived the 5 WPM telegraphy examination for anyone due to international treaty obligations, and experience establishes that the telegraphy examination is not an impediment to license upgrades for disabled persons who receive all necessary procedural accommodations from VEs in examination administration. If the Commission adopts the League's plan, anyone can earn the ability to exercise amateur operating privileges, including all modes, in almost all of each amateur band, with only a 5 WPM telegraphy examination. There is thereafter a reduced incentive to abuse the telegraphy exemption procedure. Similarly, a disabled person who wishes to obtain the highest class of amateur license would only have to take and pass a 12 WPM telegraphy examination, likewise with any and all necessary procedural accommodations. The League suggests that procedural accommodations in telegraphy examination administration, without more, are adequate to permit virtually all persons with disabilities to successfully complete a 12 WPM examination. For those few who cannot, the physician's exemption procedure could remain available.

48. However, it is not conceded by the League that the proposed requirements contained in RM-9196 for those seeking substantive exemptions from telegraphy examinations are overly

burdensome relative to disabled persons. The League had proposed that candidates for higher-class amateur licenses be required to attempt the examination, with any and all necessary procedural accommodations. Available procedural accommodations are so substantial, including the reduction of the sending speed between words, letters or even characters to a level to which the disabled person can respond, that they constitute in fact a reduction in the sending speed. No one is suggesting that disabled persons be disaccomodated in any form whatsoever, but asking a disabled person to attempt a procedurally-accommodated examination is hardly an "unfair burden" under the circumstances. Similarly, the provision by a physician to VECs of information concerning a person's disability, the same information that is available to the Commission about that same person who has asked for an exemption from regulatory requirements, is no greater an intrusion on the privacy of the applicant for a regulatory exemption than is the case under existing rules. The VEC in all cases is acting in the posture of an agent of the Commission and is obligated to assure that the Commission's rules are complied with in any examination administration. The League's proposal is simply a means of determining whether or not a physician was actually consulted by the person about a physical condition that meets the definition of a severe handicap; no more and no less. The League's petition was an appropriate and reasonable means of addressing apparent abuses of the Commission's processes. If it is no longer necessary due to implementation of the League's restructuring plan, so much the better.

49. The level of difficulty of any telegraphy examination is directly determined by the means by which the testing is done. In many European countries, telegraphy testing is done by requiring candidates to receive and transcribe three minutes of telegraphy at the appropriate speed, and counting the number of errors in the copied text, allowing no more than a specified

number. This is an effective gauge of the ability to receive telegraphy, but is not a technique used often in the United States by VEs. The current regulations, Sections 97.503 and 97.507, do not specify the means by which the telegraphy examinations are administered. Yet, as a regulatory matter, the means of administration are at least as important as the telegraphy speed. The League would suggest that the means of telegraphy testing should be specified in the rules, to insure examination uniformity and fairness to all examination candidates. Specifically, the League proposes that the Commission's rules be modified to require (other than for examinations for disabled persons requiring special accommodation) that a passing grade for any telegraphy examination shall be either 70 percent correct answers to 10 fill-in-the-blank questions, or one minute of solid copy of text out of five minutes sent. Multiple choice tests should not be permitted for telegraphy examinations, because they are not as effective a gauge of the ability to copy telegraphy text.

IX. Written Examinations

50. The Commission next discusses whether or not to give the VECs additional flexibility in determining the content of examinations. The syllabus for amateur examinations set forth in Section 97.503 is used as the basis for the VECs, cooperatively, to prepare the examination question pools. The Commission already offers the VECs significant flexibility in the preparation and maintenance of the question pools, and the Section 97.503 syllabus is not a burdensome requirement. The benefit of the syllabus is that it provides the only element of standardization in the examination process. While at present, the question pools are cooperatively maintained, the construction of individual examinations (question sets) from those pools is infinitely variable, absent some standardization requirement. The League firmly believes that the syllabus is the

minimum requirement to insure that amateur examinations are fairly prepared and administered among the (now 14) VECs. Some version, therefore, of the syllabus must remain in the rules. Absent such, a VEC or VE team could prepare examinations that differ widely in difficulty; the examinations could be arbitrarily created, and a person adequately prepared could fail due to overemphasis on one topic to the exclusion of others; and persons similarly situated would inevitably be treated differently with no remedy.[26] The Commission cannot abdicate its responsibility to insure that all persons are given examinations that fairly address all of the topics on which others are tested; and that all persons are administered an examination that is no more nor less difficult than others taking the same examination elsewhere. The VECs, jointly or severally, have no obligation to utilize any substitute for the syllabus now in the rules, or any version of it. It must therefore remain a regulatory requirement.

51. This is not to say that the topic list cannot be improved upon from its current form. For example, certain topics can be consolidated. The categories are general enough that examinations and question pools can be updated by the VECs without having to change the topic list frequently. The attached Appendix contains revisions to the numbers of questions per topic by examination element, reflecting the League's suggestions for different emphasis on different topics by license class. For example, the entry level license should have most emphasis on amateur station operating practices and procedures, RF safety and rules, and fewer technical questions. The number of technical questions should be increased as the license class increases. For the Technician class license, questions related to VHF-UHF operating practices and

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[26] The Commission would be properly subjected to accusations of denial of due process and equal protection under the law if it were to permit similarly situated licensees to be treated differently.

propagation characteristics should be emphasized. A related question is the number of questions that should be included in each question pool. Presently, Section 97.523 sets forth the requirement that the question pools contain at least ten times the number of questions required for each examination. For example, as the current Novice Element 2 examination has 35 questions, the question pool must contain at least 350 questions. The VECs, working together, have nominated a question pool committee, which jointly maintains not less than eleven times the number of questions required per examination for each written examination element in each pool, so that questions which prove misleading or otherwise unusable can be discarded. The League is aware of significant sentiment that the pools are too easily memorized, and material not learned. However, the League is unconvinced that the question pool ten-times rule necessitates change. Rather, the question pool committee of the VECs (QPC) will perhaps be best able to address, in the regular course of their work, any concerns of the amateur community relative to the content and number of questions (in excess of ten per topic) on the various topics within the pools. Should the amateur community feel that any given license class would benefit from changes to the raw number of questions, either fewer or additional operating, rules, or technical questions can be included in the various question pools to effect such change. The QPC would be able to more readily and expeditiously address such issues, provided that the basic standard examination parameters are codified by regulation.

52. The number of questions per written examination should increase incrementally, as proposed in the attached Appendix, for all license classes above Technician. Questions should be added on the subject of digital communications techniques and technologies. Consistent with the League's philosophy on examinations, in adding questions to the written elements, the

examinations should not be made more difficult. Instead, they should be made incrementally more comprehensive, and challenging appropriate to the license class, to cover more material concerning operating techniques related to new technologies. These changes in the questions, and in the question pools, can largely be implemented by the VECs without regulatory action by the Commission, other than amendment of Section 97.503 as necessary to accommodate the new examination elements corresponding to the League's license restructuring proposal. The League also recommends that the number of questions per topic be adjusted to focus more toward amateur station operation and operating procedures at the Technician and General class levels, while at the Advanced and Amateur Extra Class levels, the focus should be more on technical questions, as per the proposed Appendix.

X. Disposition of Rule Making Petitions and Miscellaneous Issues

53. The Notice, at Paragraphs 28 through 31, dismisses various petitions for rule making proposing incremental changes in amateur rules. The League interposes no objection to the Commission's proposed action on any of the referenced petitions.

54. However, there is at least one issue raised by the text of the Notice, or by the Commission's Appendix, which was not in general resolved by the August 31, 1998 *Errata* in this proceeding. The League notes the following and requests that the Commission provide some clarification, either at the time of a final order, or by the issuance of a Further Notice or Second Erratum.

55. The Commission's proposed wording for Section 97.501 indicates that the element 1(a) (5 WPM) telegraphy examination is not required for any class of amateur license. However, the proposed wording of Section 97.507(a)(2) authorizes Extra, Advanced and General Class

licensees to issue CSCEs for element 1(A). Section 97.503(a) is unchanged, so element 1(A) remains defined as 5 WPM. This would indicate that a VE team can still adminster 5 WPM examinations, but they would not be required for any license class. This is a problem, since proposed Section 97.509 speaks only in terms of administering examinations for particular classes of operator license, not for particular elements. There is no authority for a VE team to administer an examination element that is not a requirement for a class of license, and element 1(A) would not, under the Commission's proposal, be a requirement for any license class. The entry level telegraphy examination under the Notice proposal, therefore, is a 13 WPM test. This appears to be an unintentional result.

XI. Conclusions

56. The Commission in this proceeding has proposed a series of diverse rule changes. It has also asked a series of questions, in response to which it has proposed no specific rule changes. In some cases, the League supports the proposals, and in others, it does not. It is most urgent, however, that the Commission not take the specific actions it has proposed, without a comprehensive plan for the restructuring process. The elimination of the Novice and Technician Plus license classes, though a positive and timely step, cannot be accomplished as proposed in the Notice, without creating a large chasm between the remaining codeless Technician class license and the General Class license. It will not encourage, but instead will discourage, self-training. The present HF subbands on which Novice and Technician Plus license classes operate should be "refarmed", and there must be created a simple, and encouraging, path to upgrade one's amateur license class. Eliminating the 13 and 20 WPM telegraphy examinations, without

a substitute such as that provided by the League, is ill-advised, and is unnecessary as a solution to any identified regulatory goal or issue.

57. What is necessary now is to restructure the license classes as the League has proposed. The League's plan has a number of distinct benefits. It would immediately reduce the number of license classes to a manageable number which will reflect an individual's incremental growth in the technical and operating self-training components of Amateur Radio. It will provide an opportunity to refarm the HF subbands set aside for Novice use, thus to make more efficient use of amateur HF allocations. It will correct an overemphasis on Morse telegraphy over other communications techniques, while at the same time retaining a minimal level of proficiency in a still-relevant, internationally universal communications skill. It will also allow some revision of question pools for written and telegraphy examinations that better address the types of operation of each particular license class. It may also provide a solution to the issue of telegraphy examination exemption abuses, while avoiding, as must be done, any adverse impact on disabled persons.

58. The Commission, thanks to the new staff in CIB, appears to be headed finally in a positive direction on the subject of enforcement in the Amateur Service. It is disheartening that the League's proposal in this respect did not receive more serious consideration than it did in the time since its filing. However, with the transfer of enforcement jurisdiction in amateur matters to CIB, the matter is best addressed in that Bureau, and the League will be pleased to work with CIB on a regular basis. The Commission need not discontinue renewing RACES

licenses, since it has just implemented a means of accommodation of those licensees in the private sector using volunteers. Indeed, under that arrangement, it could reinstate the processing and issuance of new RACES call signs upon application from a person eligible to participate in RACES. It must, however, as a priority item, address the RACES issues in the League's long-pending petition for rule making, RM-9115, which seeks rule changes involving RACES stations, mostly to relieve unnecessary restrictions.

59. The Commission should retain telegraphy examination requirements, but modify them, reducing the requisite code speed requirements in accordance with the League's restructuring proposal to 5 and 12 WPM. Telegraphy continues to have an important place in amateur communications on HF bands, and all radio amateurs who communicate internationally should have the ability to do so via Morse telegraphy, but the requirements should be such as to encourage, not discourage, license upgrading and the self-training that is accommodated thereby. Just as important as specifying the speed of telegraphy examination elements, the Commission must specify the means by which those examinations are administered. Elimination of multiple choice testing will improve the examinations and better fulfill the purpose of the examination process.

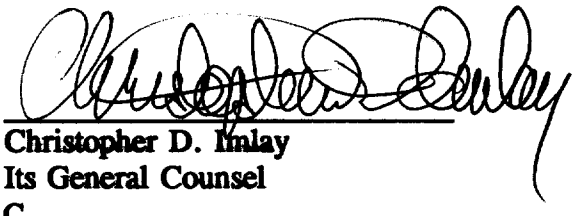
Therefore, the foregoing considered, the American Radio Relay League, Incorporated

respectfully requests that the Commission modify its proposal contained in the Notice in the foregoing respects, and in accordance with the Appendix attached hereto.

Respectfully submitted,

THE AMERICAN RADIO RELAY LEAGUE, INCORPORATED

225 Main Street
Newington, CT 06111

By: 

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December 1, 1998

EXHIBIT A

By David Sumner, K1ZZ

Results of the WRC-99 Opinion Survey

The ARRL Board wanted your opinion on some issues relating to WRC-99 and the amateur license structure. Here's what you told us.

The 1995 World Radiocommunication Conference, Geneva, 1995 (WRC-95), resolved that the following item should be included in the preliminary agenda of WRC-99, to be held in late 1999: "consideration of Article S25 concerning the amateur and amateur-satellite services."

This short, cryptic agenda item could have profound implications for Amateur Radio.

Article S25 is the current designation for the part of the international radio regulations that contains the specific rules relating to the Amateur and Amateur-Satellite Services. It does not include the definitions of the services, but does include a number of significant provisions. Because the international radio regulations have the force and effect of a treaty, an administration that agrees to abide by them is obliged to regulate its radio amateurs in accordance with this Article.

Most of the obligations contained in Article S25 relate to technical or operating requirements and are not particularly controversial. However, two provisions relate to licensing requirements:

S25.5 Any person seeking a licence to operate the apparatus of an amateur station shall prove that he is able to send correctly by hand and to receive correctly by ear, texts in Morse code signals. The administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above 30 MHz.

S25.6 Administrations shall take such measures as they judge necessary to verify the operational and technical qualifications of any person wishing to operate the apparatus of an amateur station.

Changes in either or both of these provisions could lead to proposals for changes in the domestic regulations that define the qualifications for an amateur license in the United States.

Historically, any thought of changing the licensing requirements in the Amateur Service has tended to be controversial. With that in mind, the ARRL Board of Directors decided in January 1996 to establish a committee, made up of Board members and other representatives of the broad range of the membership, to study these issues and to make recommendations to the Board. The Board set as the committee's first task "to define the process by which membership input should be solicited and the opinions of the membership objectively determined."

The members of the committee, known as the ARRL WRC-99 Planning Committee, were named by President Stafford in March 1996. They are: Dakota Division Director Tod Olson, KØTO, Chairman; First Vice President Stephen A. Mendelsohn, W2ML; Midwest Division Director Lew Gordon, K4VX; Southwestern Division Direct Fried Heyn, WA6WZO; Northweste Division Vice Director Greg Milne W7AGQ; ARRL members Ken Kop KØPP, of Anaconda, Montana, Tuck Mill KC6ZEC, of San Diego, California, a Glen Whitehouse, K1GW, of Amherst, Ne Hampshire; and Executive Vice Preside David Sumner, K1ZZ. At a meeting Bloomington, Minnesota, the followi month, initial plans were developed for opinion survey of a representative sample ARRL members, with a separate sample radio amateurs who are not members purposes of comparison.

Following Board approval at its Ju 1996 meeting of the requested budget for survey, Readex Inc, a nationally recogni independent research company located Stillwater, Minnesota, conducted the sur and prepared a report in accordance w accepted research standards and practic

Survey Method

The survey sample of 1600 was selec from two separate populations. The f

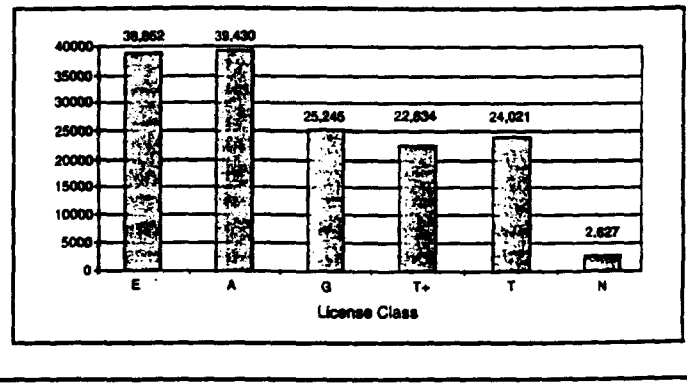


Figure 1—ARRL membership by class of license, August 1996. (Source: ARR membership database and FCC licensing records.)

segment of 1100 was selected in systematic, stratified fashion from six license classes in the ARRL's membership (200 from each class from Extra to Technician, and 100 Novices) representing 152,809 FCC-licensed members at the time of sample selection. The stratification by license class was to ensure that there would be enough responses representing each license class to provide meaningful results and to give similar margins of error (except for Novices, who are by far the smallest group of licensed members). The second segment of 500 was selected in systematic fashion from nonmembers in the FCC's list of licensed radio amateurs. Seventy-three survey kits from the nonmember list of licensed radio amateurs were returned by the Post Office as undeliverable, resulting in a net effective mailout of 427, representing an estimated 438,781 radio amateurs at the time of sample selection.

Data was collected via mail survey from August 6 to September 25, 1996. The survey was closed for tabulation with 1176 usable responses—a 77% response rate, based on the net effective mailout of 1527. The response rate varied from 62% for nonmembers to 88% for Extra class members. Responses were weighted to reflect true population proportions (Figure 1); for example, 38,852 ARRL members hold Extra class licenses, so each of the 176 such responses represents 220.75 ARRL members in the tabulation. Since a high response rate minimizes the impact of nonresponse bias, results may be considered representative of the population from which the sample was drawn, within the limits of statistical precision. The margin of error for percentages based on 1176 usable responses is ±2.9% at the 95% confidence level. The margin of error for percentages based on smaller sample sizes—license class, for example—will be larger.

The survey questionnaire was similar to that printed in September 1996 *QST*, on pages 49-50. Thousands of members and a few nonmembers returned the *QST* questionnaire; a sample of those responses was tabulated separately for the information of the committee and all members' responses were shared with their own division Directors. This article is drawn from the Readex survey report; the responses to the *QST* survey were similar, except that the response was not uniform; for example, members holding Extra class licenses were about twice as likely as the average member, and those holding Technician class licenses only half as likely as the average member, to return the *QST* form.

Findings Regarding WRC-99

Survey recipients were asked to indicate which one of the following statements was closer to their own opinion with regard to a possible change in the international regulations:

The Morse code requirement for amateur radio licensing is no longer relevant, or soon will not be relevant, in the international regulations.

For the foreseeable future, it is important to retain the Morse code requirement in the international regulations.

Members favored the second option by a margin of about two to one: 63% to 30%, with 8% not answering. Among all ama-

Table 1

Opinions Concerning Morse Code Requirement by License Class for Members and Nonmembers (% supporting retention of requirement, % opposing, % not answering)

		Members							*Nonmembers*						
	Total	E	A	G	T+	T	N	All	E	A	G	T+	T	N	All
Favor	57	75	70	71	46	47	33	63	82	61	67	57	26	67	54
Oppose	35	21	24	23	37	48	16	30	6	26	24	41	68	19	37
No answer	8	4	6	6	17	5	51	8	12	13	9	3	6	14	9

Table 2

Degree of Members' Agreement with Statements Concerning the Morse Code Requirement (% of total respondents; SA = strongly agree, A = agree, NS/NO = not sure/no opinion, D = disagree, SD = strongly disagree, NA = no answer)

1. Each country should be able to make up its own mind whether to have a Morse code requirement or not.

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
22	30	9	19	19	2

2. The Morse code is still important because it helps amateurs to communicate across language barriers.

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
38	33	10	13	6	0

3. The Morse code requirement helps ensure that radio amateurs are disciplined operators

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
33	29	11	14	11	2

4. The Morse code is a good thing to know, but it should not be a licensing requirement.

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
14	18	6	31	30	1

5. Knowing the Morse code just isn't important anymore.

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
9	11	8	29	43	1

6. If the rules for Amateur Radio were being written for the first time today, there would not be an international requirement of Morse code ability for access to the HF bands.

SA	*A*	*NS/NO*	*D*	*SD*	*NA*
17	21	22	21	19	1

Table 3

Members' Opinions Concerning Morse Code Requirement by Number of Years Licensed (% of members responding)

	Less than 6	*6-10*	*11-15*	*16-20*	*21 or more*
Favor	54	63	57	67	69
Oppose	36	31	32	27	25
No answer	10	6	11	6	6

Table 4

Members' Opinions Concerning Morse Code Requirement by Age (% of members responding)

	24 or under	*25-34*	*35-44*	*45-54*	*55-64*	*65 or over*
Favor	85	52	58	66	55	65
Oppose	15	45	34	26	36	27
No answer	0	3	7	8	9	8

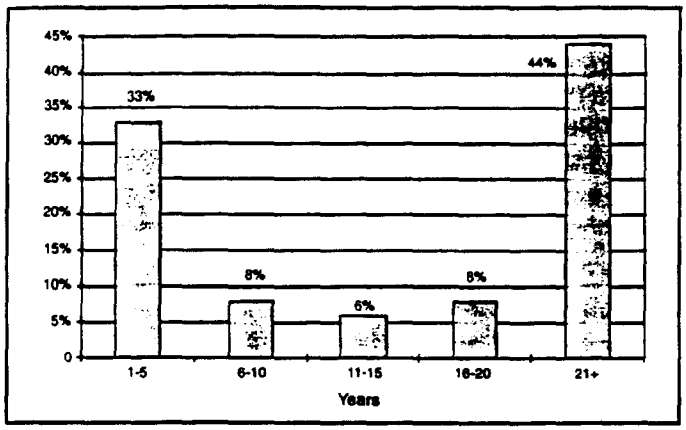


Figure 2—Length of time since receiving first license.

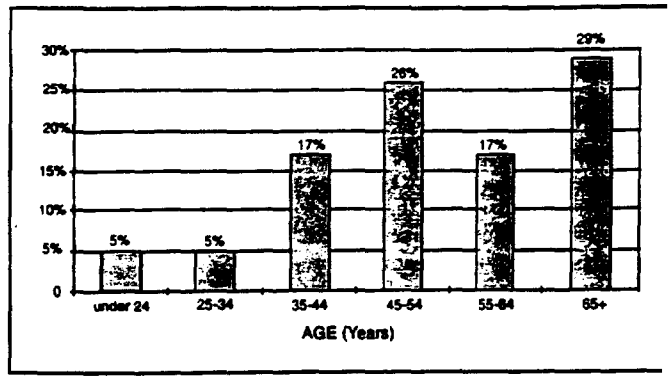


Figure 3—ARRL membership by age.

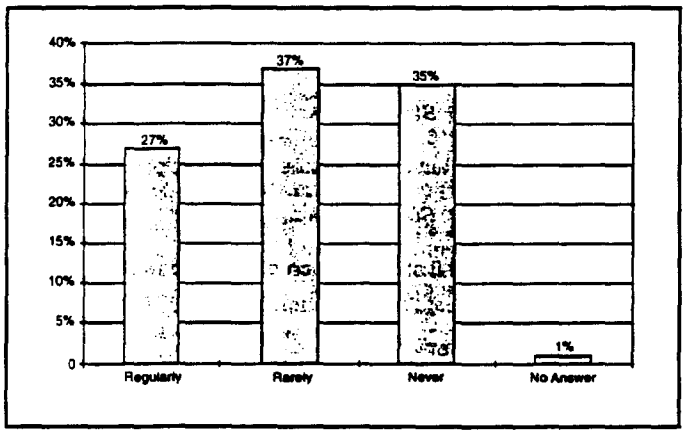


Figure 4—Use of Morse code.

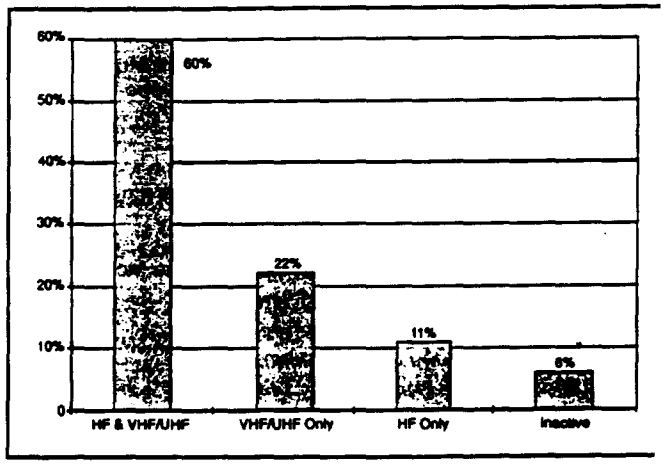


Figure 5—Use of Amateur Radio frequencies.

teurs, including nonmembers, the results were somewhat similar: retention of the Morse code requirement was favored by 57%, with 35% regarding it as not relevant and 8% not answering. Former members favored the Morse requirement by 54% to 35%, with 10% not answering; those amateurs who have never been members favored the Morse requirement by 54% to 39%, with 7% not answering.

Table 1 shows that by license class, members favor the Morse requirement in every case except for Technicians, where the split is virtually even. Among non-members the pattern is similar except for Technicians, 68% of whom question the relevance of the requirement vs. 26% who support it.

The findings discussed in the remainder of this article will be for ARRL members.

One section of the survey asked respondents to indicate their level of agreement or disagreement with six statements giving possible reasons for maintaining or deleting the international requirement. The responses (Table 2) were generally consistent with opinions concerning a possible change. However, with regard to the statement, "Each country should be able to make up its own mind whether to have a Morse requirement or not," a number of those supporting the international treaty obligation nonetheless agreed with the statement. Similarly, but to a lesser extent, some members who support the treaty obligation nonetheless agreed that the obligation would not be included if the rules were being written for the first time today. On the other hand, some of those who favored deletion of the treaty obligation disagreed with statements suggesting that the Morse code was no longer important.

One might expect members licensed since the advent of the codeless Technician license to be more favorably inclined toward elimination of the Morse requirement than the average member, but even in this group most ARRL members (54%) supported the requirement (Table 3). There was some variation by age, with the youngest members, those between 45 and 54, and those 65 and over the strongest in their support (Table 4).

Findings Regarding License Structure

Because changes in the amateur license structure are a frequent subject of discussion among amateurs, and because a changes in the international regulatio might lead to proposals for domestic rul changes, the Board asked the WRC-99 Pla ning Committee to study this topic. Some the survey questions explored opinions r garding the license structure. Again, t following percentages are of members, r of the amateur population as a whole.

Opinions of the Volunteer Examir program were overwhelmingly favorab with 52% rating it 5 on a scale of 1 (poor) 5 (excellent). Another 31% gave it a rati of 4, and just 6% gave it a rating of 1 or

On the same scale, 34% rated the elir nation of the Morse requirement for a Vl Technician license as 5 (excellent), 2(gave the change a rating of 4, 18% a rati of 3, 10% a rating of 2, and 18% a rating 1. Members who use only HF, and the re tively few members who are inactive, w less favorably inclined toward the char than those who actually operate on Vl and higher.

When asked what should be the Mo code proficiency requirement for full An teur Radio privileges, 32% supported existing requirement of 20 words per min

(wpm); 41% favored something in the range of 10 to 13 wpm; 8% favored 5 wpm; 14% favored no requirement; and 6% expressed no opinion. Not surprisingly, the responses varied by license class; for example, 59% of Extras supported 20 wpm vs. 29% of General and Advanced licensees.

There are now six classes of amateur license in the United States. Just 3% of members thought that was too few, and favored seven or more classes; 22% liked having six; 17% thought five was the right number; 22% preferred four; 21% preferred three; 5% preferred having two; and 6% thought there should be just one class of license. Another 6% either had no opinion, or did not answer.

Of those who thought there should be more than one class of license, 22% favored increased HF privileges for Technician Plus and Novice licensees, while 13% favored increased privileges for Technician Plus only; 55% were opposed; and 10% had no opinion or did not answer.

When this same group was asked how many levels of Morse code proficiency should be defined in the FCC rules (in addition to the codeless level), 4% said there should be four or more; 39% said three; 29% said two; 12% said one; and 11% said none. Another 3% had no opinion, and 2% did not answer. Those who thought Morse code should be a factor in earning privileges to use modes other than Morse code narrowly outnumbered those who did not, 47% to 42% (the remainder having no opinion or not answering).

Finally, respondents were asked the hypothetical question, "If Morse code requirements for HF privileges were to be reduced or eliminated, would you favor adding something to the examinations to take their place?" Seventy-eight percent selected one or more of the following (multiple answers were permitted): how to be a good, considerate operator, selected by 61%; technical questions, 48%; regulatory questions, 44%; and other questions, 5%. Fourteen percent thought nothing should be added, and the remainder had no opinion or did not answer.

Demographic questions (Figures 2 through 5) rounded out the survey, and provided the basis for the breakdowns discussed above as well as some others. This article summarizes more than 200 pages of data, and can only provide some of the more interesting selections.

What Happens Next?

By the time you read this, the WRC-99 Planning Committee will have used the survey as one of a number of inputs to its deliberations. The committee's report and recommendations will be considered by the Board at its regular meeting on January 17-18, 1997, in Albuquerque, New Mexico. Any decisions affecting ARRL policies will be announced right after the meeting, by W1AW bulletin and other means.

David Sumner, K1ZZ, is Executive Vice President and Secretary of the ARRL.

EXHIBIT B

By David Sumner, K1ZZ

Member Comments Sought on Licensing Structure

The ARRL Board has received a committee proposal for changes in the Amateur Radio licensing structure, and wants to hear what you think.

While most of the discussion surrounding the work of the ARRL WRC-99 Planning Committee and its membership survey (*QST*, Feb 1997, p 54) swirled around the issue of the international requirement for Morse code testing for operation below 30 MHz, the assignment to the committee was broader than that (see box). The committee studied and made recommendations regarding the other provisions of article S25 of the international radio regulations (see sidebar, this issue, p 60). As the ARRL Board of Directors had requested, the committee also discussed concepts for simplifying the amateur licensing structure in the United States and for additional HF digital privileges for Novice and Technician Plus licensees.

The following section is excerpted verbatim from the committee report to the Board, except for some minor rearranging and one change in terminology directed by the Board.

From the Committee Report

The Committee reviewed the evolution of the licensing structure for the Amateur Radio Service in the United States and concluded that the Novice class license, while extremely beneficial at an earlier time, is no longer useful. The vast majority of new radio amateurs earn Technician licenses as their means of entry into Amateur Radio. Readex could only find approximately half of the Novice licensees who are in the FCC database, and of those, only half indicated they were active. Therefore, the survey leads us to conclude that as many as three No ces in four are inactive.

The Committee identified a growing

The resolution creating the ARRL WRC-99 Planning Committee was adopted at Minute 89 of the 1996 Annual Meeting of the Board:

WHEREAS, various concepts for simplification of the Amateur Radio Service licensing structure are being discussed in the amateur community; and

WHEREAS, the League is committed to the principle that no structural changes should reduce the privileges of existing licensees; and

WHEREAS, maintaining the integrity of the amateur examination and licensing process is essential to the future health and growth of Amateur Radio; and

WHEREAS, the League is cognizant of efforts to harmonize the standards for amateur licensing in different countries, which support the objective of reducing the barriers to the movement of radio amateurs across international borders; and

WHEREAS, these issues are related to the provisional WRC-99 agenda item to consider Article S25 of the international Radio Regulations, the technical and operational rules governing the Amateur and Amateur-Satellite Services, including but not limited to the requirement to demonstrate Morse code ability in order to operate below 30 MHz; and

WHEREAS, the ARRL Board of Directors recognizes that it is essential for the League to solicit input on these issues from the broad range of its membership and to develop policies that will ensure the future health and growth of Amateur Radio;

NOW, THEREFORE, BE IT RESOLVED, that the President is authorized to appoint a committee made up of Board members and other representatives of the broad range of the membership. The terms of reference shall be to make recommendations for ARRL policy positions encompassing the issues listed above. The committee's first tasks shall be to define the process by which membership input should be solicited and the opinions of the membership objectively determined, and to formulate a request for funding of this process and for the remainder of the committee's work. The target date for completion of these initial tasks shall be 120 days after appointment. The committee's final report shall be rendered to the Board no later than December 17, 1996.

The Committee was given an additional assignment at Minute 40 of the October 1996 Special Meeting of the Board: To study an ARRL Industry Advisory Council recommendation to grant HF digital privileges to Novice and Technician Plus licensees, and make a recommendation on this matter to the Board.

concern about the development of two separate amateur communities, one active on the HF bands and the other active on VHF and higher frequencies. Although some amateurs are participants in both communities, for a number of reasons, fewer recently licensed amateurs are seeking to participate in both. The Technician Plus license is not presently succeeding in introducing newer amateurs to the HF community. The additional operating privileges gained by upgrading from Technician to Technician Plus tend to isolate Technician Plus licensees from other HF license holders and do not provide an adequate sample of HF operating experiences, particularly when the sunspot numbers are low. As a result, newly licensed Technicians are not upgrading at the rate that might be desired, and may abandon Amateur Radio before they have adequately explored the opportunities available to them.

The Committee noted that there is a well-documented learning plateau in the vicinity of 10 words per minute. The large step from 5 to 13 words per minute thus represents a significant barrier to upgrading. At the same time, comments addressed to the Committee documented a significant concern in the amateur community with the existing Morse code testing process.

The Committee observed that the Morse code requirements for different classes of amateur license ought to follow a logical progression. The Intermediate class Morse examination is proposed to be Element 1(A), 5 words per minute. The General class Morse examination is proposed to be a modified Element 1(B), 10 words per minute. The Advanced and Extra class would remain as they are at present [ie, no additional Morse examination to go from General to Advanced, and an examination at 20 words per minute to go to Extra]. Examinations for all three elements should be revised to include a sending test and a return to the requirement for one minute of solid copy during a five-minute receiving test period. The Committee also noted great concern in the amateur community about perceived abuses of the handicapped waiver provision, and urges that steps be taken to reduce the opportunity for such abuses.

The Committee agreed that the amateur license structure should reflect an individual's growth in the technical and operating components of Amateur Radio. The existing General, Advanced, and Extra class licenses are consistent with this principle, but the Novice, Technician, and Technician Plus licenses do not clearly demonstrate such progression. The consensus of the committee was that there should be only two classes of license preceding the General, and that they should be a part of this progression. The first should be an entry-level class conveying the present Technician privileges; the second should be approximately midway between the entry level and the General, and should convey privileges that will permit license holders to explore the aspects of HF Amateur Radio regardless of the sunspot cycle, and in a fashion that will support their integration into the mainstream of Amateur Radio. The Novice license would be eliminated, with presently licensed Novices given an opportunity to convert easily to the closest equivalent class of license.

The elimination of the Novice license would permit the elimination of the existing written examination Element 2 that today is taken mostly by individuals seeking a Technician license but which contains material that is relevant to the Novice class but not to the Technician. An examination more suited to VHF and higher-frequency privileges then could be developed as a substitute for Elements 2 and 3A.

The Committee identified the names of the classes of amateur license as being important to how they are perceived, both inside and outside the Amateur Radio community. The Committee recommends that the Technician license be renamed the Basic license, and further recommends that the Novice and Technician Plus licenses be eliminated and that a new Intermediate class license be substituted with requirements midway between the Basic and General license: that is, a written examination covering material relevant to the additional privileges to be gained, and a Morse code test at 5 words per minute. All presently licensed Technician Plus licensees would be automatically converted to the new Intermediate class. Presently licensed Novices would be given the opportunity to convert to Intermediate class by completing an open-book test, submitted through Volunteer Examiners, covering the additional privileges of the Intermediate class.

Novice licenses that are not converted to Intermediate would expire at the end of their term and would not be renewed. Because converting to Intermediate would require Novices only to affirm their continued interest in Amateur Radio and to demonstrate a minimal understanding of their new privileges at their own convenience, without the pressure of a supervised examination, the Committee members do not view this as contrary to the principle that no structural changes should reduce the privileges of existing licensees. As will be discussed below, phasing out the existing Novice bands on 80, 40, and 15 meters is essential to achieving other objectives; therefore, it is not practical to maintain the Novice as a sixth class of license with its existing set of privileges, but for which no new applications would be accepted.

The features of the Intermediate class received extensive consideration. With the elimination of the Novice license, the frequencies that are presently assigned for Novice and Technician Plus CW operation would become available for other uses. This will make it possible to achieve some modest expansion of the HF phone bands of all HF licensees. The Committee followed the principle that while the Intermediate Class should include meaningful phone and digital privileges in various parts of the HF spectrum, the most narrow and crowded bands should not be available. The Committee reached consensus on the following proposed set of HF operating privileges:

Frequencies (in kHz) by modes:

CW	*Digital*	*Phone & CW*
—	—	1950-2000
3525-3700	3600-3625	3900-4000
7025-7050	—	—
21025-21150	21100-21125	21350-21450
28050-28300	28100-28189	(SSB) 28300-28500 (FM) 29500-29700

Transmitter power: 200 W PEP output maximum (other licensees using these bands would not be limited to 200 W).

The following adjustments to the phone bands of other HF licensees are proposed, made possible by the elimination of the Novice bands:

General class: Add 3800-3850, 7200-7225, 21250-21300 kHz

Advanced class: Add 3725-3775, 7125-7150, 21175-21225 kHz

Extra class: Add 3700-3750, 7125-7150, 21150-21200 kHz

Thus, each of these license classes would pick up 50 kHz of additional phone band on 75 and 15 meters, and 25 kHz on 40 meters.

Some Questions and Answers

The committee delivered its report to the Board in mid-December. Here are some of the questions that have been asked about the committee's recommendations. The answers represent the thinking of the author and not necessarily the rest of the committee or the Board.

Q: Why eliminate the Novice license? It may not be very popular right now, but what harm does it do?

A: The Novice license has a proud history many committee and Board members entered Amateur Radio by that route. However, there are two things to be gained from its elimination. First, because of the way the licensing structure is presently arranged, applicants for a Technician license must pass a Novice written examination element containing material that is not relevant to the privileges conveyed by the license they are seeking. Eliminating the Novice license would make possible a more meaningful Technician (Basic) exam, as well as a meaningful (but less than General level) written exam as a part of the step t

one's first HF license. Second, eliminating the Novice license permits the "refarming" of the existing Novice bands, which leads to the possibility of wider 75, 40, and 15-meter phone bands for everyone.

Q: Instead of eliminating Novice licenses, couldn't we just ask the FCC to stop issuing new ones?

A: Putting the existing 80, 40, and 15 meter Novice bands to better use is a key element of the committee's design, and that would not be possible if existing Novice privileges were to be maintained. The committee's suggestion, which is just a starting point for discussion, envisions making it as easy as possible for present Novices to convert to the Intermediate class. All they would have to do is complete an open-book exam on the additional privileges of the Intermediate class. Committee members felt this was preferable either to a blanket "free" upgrade at one extreme, or to requiring a regular exam at the other. Some Board members have expressed different thoughts on this point, but they would like to hear from you before making up their minds.

Q: Doesn't the proposed reduction in General and Advanced code speed from 13 to 10 words per minute amount to a lowering of standards?

A: One problem with the existing code tests is that the standards are not consistent. Whether an applicant passes or fails may have more to do with the design of the test—ie, whether it's true/false, multiple choice, or fill-in-the-blanks—than with their Morse code ability. Some of our volunteer examiners have said they don't mind doing a little more work if it results in a fairer exam. Returning to the standard for *all* code tests of one minute of solid copy out of five minutes of text, plus a sending test, would achieve greater fairness and consistency. Accommodated exams would still be available to applicants with disabilities.

Q: It's about time you guys recognized there's a problem with the medical waivers. What are you going to do about it?

A: Investigating the extent of abuses and proposing a solution is being addressed separately, as a matter of urgency, by the ARRL Executive Committee. (See Minute 55, p 63, this issue.)

Q: How did the committee come up with the list of privileges for the Intermediate license?

A: It was thought best to leave the HF bands with the greatest scarcity value—that is, the narrowest and most crowded bands—off the list. That principle applies to 20 meters and the narrow bands won at WARC-79: 30, 17, and 12 meters. It would also apply to 40 meters, but Novice and Technician Plus licensees have CW privileges in this band and the committee did not want to eliminate an existing privilege. (Access to 25 kHz below 7100 kHz was thought to be reasonably equivalent to the existing privilege of 50 kHz amongst the high-powered international broadcasters above 7100 kHz.) Some might argue that the principle also applies to 80 meters, but this band is wider, there is some elbow room during the daylight hours, and it offers an opportunity to get involved in public-service communication. If you have a better idea, by all means, please share it.

Q: I don't like the names "Basic" and "Intermediate." Couldn't you come up with anything better?

A. It's easier to criticize the existing name, "Technician," than to come up with universally acceptable alternatives. The Technician class license dates back to 1951, when privileges were limited to the frequencies above 220 MHz and the license was intended for experimentation. The ARRL Board recognized as far back as 1969 that Technicians were communicators as well as experimenters, but the name stayed the same. "Technician Plus" arose when it became necessary to differentiate between Technicians with HF privileges and those without. The committee actually suggested "Explorer" for the initial HF license, but the Board preferred "Intermediate." Again, if you have a better idea, we're all ears.

Q: This is a start, but you didn't go far enough; five classes of license are still too many.

A: As reported in the survey results last month, the vast majority of members think there should be at least three classes of license. There was no consensus that the "right" number was either three, four, five, or six. The committee did not interpret the survey results as a mandate for radical change.

What Do You Think?

Any proposal to change the licensing structure is going to be controversial. There is bound to be a wide range of opinion about the committee's proposal among the membership at large. At this point, the only opinion that is wrong is the opinion that the Board has already made up its mind and this call for your comments is just an empty gesture. At the Board meeting in Albuquerque, opinions were heard ranging all the way from general support for the concept, with some reservations about certain details, to reluctance even to raise the issue at a time when so many other urgent matters are facing Amateur Radio. No Board member was ready to vote to support the committee's proposal precisely as presented, nor were they asked to. Ultimately, the Board concluded that the members could deal constructively with the issues raised by the committee report, and should be invited to do so.

Important: The Board has *not* adopted the committee report!

The rumor mill being what it is, you're bound to hear that "The League has proposed" all kinds of things to the FCC, or possibly even that the FCC has adopted them! Let's be very clear about this: The changes discussed in this article are *not* ARRL policy; *nothing* has been proposed to, or by, the FCC; and the ARRL Board is committed to making *no* decision before its July 1997 meeting. Whether any decision will be made at that meeting, remains to be seen; there is no timetable for completion of this process.

The motion adopted at the January Board meeting means exactly what it says: "With regard to the FCC amateur licensing structure, the report of the ARRL WRC-99 Planning Committee is received. The Executive Vice President is instructed to publish the conclusions and recommendations of the Committee in the next available issue of *QST* and to invite members to comment to their Directors before May 31, 1997. Further, it is resolved that the Board will not take action on the Committee recommendations earlier than the July meeting of the Board, to afford members an opportunity for in-depth discussion and comment."

Between now and the end of May is your opportunity to tell your own director what you like and dislike about the committee's proposal. The floor is open for alternative suggestions. What the League does about proposing changes to the licensing structure—if anything—will be whatever at least eight directors decide they can support.

Your director's postal and e-mail addresses are on page 10 of this issue of *QST*. Their mailboxes and their minds are open for your input.

David Sumner, K1ZZ, is Executive Vice President and Secretary of the ARRL.

I would like to get in touch with...

◊ Hams who operated from the Antarctic, hams who contacted Antarctic stations, and nonhams who were in Antarctic expeditions as radio operators, technicians or aviators, during the period 1947 to the present. I'm writing an article for *Aurora*, the magazine of the Australian Antarctic Club, that will be titled "Fifty Years of Radio Communications in the Antarctic, 1947-1997" (in 1947 the first modern-day radio station, VJM, began operation on Macquarie Island). Allan Moore, VK1AL, PO Box 4572, Kingston, Canberra ACT 2604, Australia.

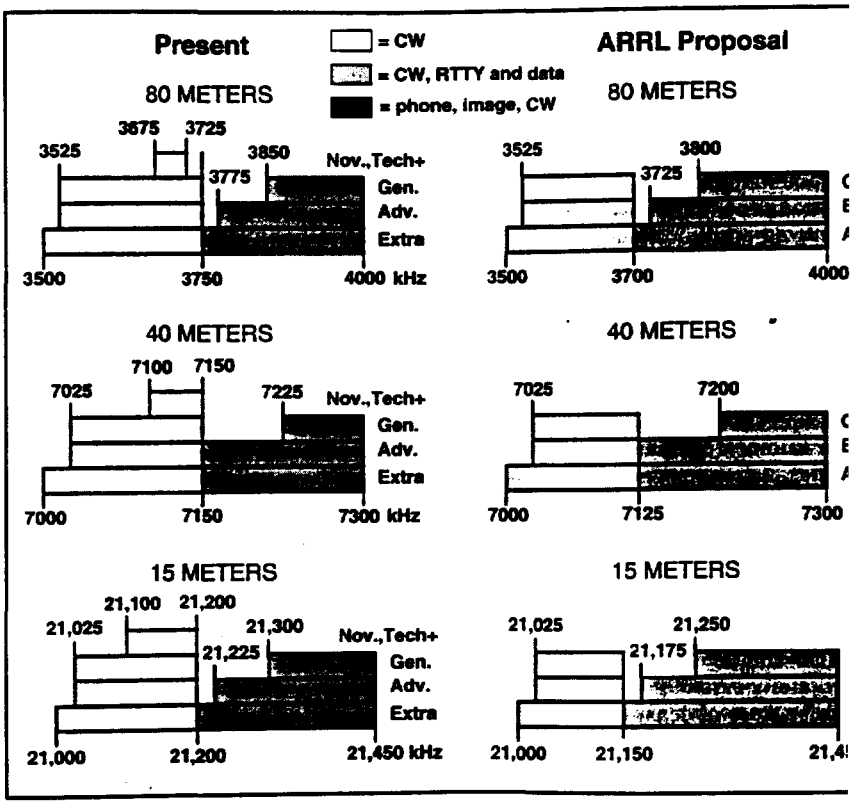
EXHIBIT C

By Rick Palm, K1CE

License Restructuring for the Future

In response to the concerns of the membership, ARRL policymakers propose simplification of the licensing structure—and every licensee wins.

After considering comments from thousands of ARRL members, nonmembers and prospective amateurs, and after two and a half years of study, the League's Board of Directors has voted to propose reducing the number of FCC license classes from six to four. The action, based on the realization that six classes were no longer needed, came as the Board met July 16-18 in Rocky Hill, Connecticut. In taking the action, the Board said the goal was to simplify the structure without reducing the requirements for any class of license. Where reductions are made in Morse code requirements, there would be a corresponding increase in written exam standards. The Board was adamant that no amateurs lose privileges already earned, a principle derived from the League's experience with the incentive licensing proceeding of the mid '60s. The Board felt equally strongly about maintaining the integrity of the exam and licensing process that is essential to the future health and growth of Amateur Radio.



Why? And Why Now?

An FCC proposal to simplify the licensing structure, as a part of a biennial review of all FCC regulations governing all services, is imminent. The Board did not want an FCC proposal to be the only basis for discussion of the structure. At the same time, it is undeniable that as a result of the FCC's failure to adopt ARRL proposals[1] proffered earlier this decade, the licensing structure is out of whack at the entry level. Most new hams (about 90%) today come in as Technicians; a handful (about 3%) enter Amateur Radio through the Novice portal. The first test that a prospective licensee sees as he or she works toward the Technician license is Element 2, the Novice exam element that deals primarily with HF operation. However, much of Element 2 is irrelevant to Technicians because it involves questions specific to the Novice license, or to HF privileges that Technicians do not have.

ARRL-commissioned surveys have also shown that most Novices are inactive. The limited activity found in the current Novice bands is primarily upper class licensees seeking solace from the crowded portions of their own subbands. The original purposes of the Novice license are no longer served, and it is time to face that fact. It is also time to face up to the laws of supply and demand: the elimination of the Novice license would allow the Novice bands to be "refarmed" to the rest of the HF operator community. *That would mean an additional 50 kHz of prime real estate for phone band expansion in the 80 and 15 bands, and 25 kHz in the 40 meter ba*

the expense of CW? Not really—the
ice CW bands see very little activity r
we need to "use them or lose them."
many CW devotees now believe th
best way to encourage CW beginner
let them look for contacts in other pa
the CW bands, where they are more
to find activity.

Compared with the rest of the wor
US amateur service is out of step w
six license classes—most countries l
structure that is more readily under
by, and consequently attractive to, pro
tive amateurs. No news to anybody

[1]Notes appear on page 50.

Table 1
A New Upgrade Path

Class	*Assimilates*	*Code Test*	*Written Examination*	*Privileges*
D	Technician	None	Operational and technical questions relevant to VHF/UHF	All amateur privileges. 50.0 MHz and above.
Upgrade from D to C	Novice, Technician Plus, General	5 WPM	Operational and technical questions relevant to HF	All amateur privileges except those reserved for Class A and B. Add 3800-3850 kHz; 7200-7225 kHz; 21250-21300 kHz to phone sub-bands.
Upgrade From C to B	Advanced	12 WPM	Similar to present Element 4A (Advanced)	All amateur privileges except those reserved for Class A. Add 3725-3775 kHz; 7125-7150 kHz; 21175-21225 kHz to phone sub-bands.
Upgrade from B to A	Extra	None	More advanced technical questions[2]	All amateur privileges. Add 3700-3750 kHz; 7125-7150 kHz; 21150-21200 kHz to phone sub-bands.

Table 2
Current Amateur Operator Licenses

Class	*Code Test*	*Written Examination*	*Privileges*
Novice	5 WPM (Element 1A)	Novice theory and regulations (Element 2)	Telegraphy on 3675-3725, 7100-7150 and 21,100-21,200 kHz with 200 W PEP output maximum; telegraphy, RTTY and DATA on 28,100-28,300 with 200 W maximum; and telegraphy and SSB voice on 28,300-28,500 kHz with 200 W PEP max; all amateur modes authorized on 222-225 MHz, 25 W PEP max; all amateur modes authorized on 1270-1295 MHz, 5 W PEP max.
Technician	None	Novice theory and regulations; Technician-level theory and regulations. (Elements 2 and 3A)	All amateur privileges 50.0 MHz and above.
Technician Plus	5 WPM	Novice theory and regulations; Technician-level theory and regulations. (Elements 2 and 3A)	All Novice HF privileges in addition to all Technician privileges.
General	13 WPM (Element 1B)	Novice theory and regulations; Technician-level theory and regulations; and General theory and regulations. (Elements 2, 3A and 3B)	All amateur privileges except those reserved for Advanced and Amateur Extra.
Advanced	13 WPM (Element 1B)	All lower exam elements, plus advanced theory. (Elements 2, 3A, 3B and 4A)	All amateur privileges except those reserved for Amateur Extra Class.
Amateur Extra	20 WPM (Element 1C)	All lower exam elements plus Extra class theory. (Elements 2, 3A, 3B, 4A, and 4B)	All amateur privileges.

fact that Amateur Radio and ARRL desperately need new blood. A recent survey shows the average ARRL member is 57 years old, up from 53 years old just six years ago. We're getting older and older. Few members are young. Who will our leaders be in 20 years? Thousands of ARRL members concur — it is indeed time for a change. Let's look at the ARRL proposal.

The ARRL Proposal

The entry-level *Class D* license would convey the privileges of the present Technician license. The difficulty of the written test would be the same, but it would all be relevant to VHF/UHF. All Technicians would become *Class D*.

Class C would convey the privileges of the General license, but with phone bands expanded by 50 kHz on 75 and 15 meters and by 25 kHz on 40 meters. See the tables and graphic. Upgrade applicants from Class D would pass a written test on HF operation and a 5 word per minute code test. Current General, Technician Plus, and Novice licensees would become *Class C*. Technician Plus and Novices would be included as they have already earned HF privileges. (Remember, the Board wanted no amateurs to lose privileges already earned.) The expansion of the phone bands would result from "refarming" of the Novice CW bands.

Class B would convey the privileges of the present Advanced license, but with similar phone band expansion. *Class C* to *Class B* upgrade candidates would have to pass a more advanced written test similar to the present Element 4A and a 12 word per minute code test. (General class licensees will not have to pass a new code test to upgrade if they have proof of passing the original 13 WPM test—such as a copy of their General license). All current Advanced licensees would become *Class B*.

At the top would be *Class A*, which assimilates current Extras. *Class A* would carry all amateur privileges, including additional phone space of 50 kHz on 75 and 15 meters and 25 kHz on 40 meters. To upgrade from *Class B* to *Class A*, the most difficult written test would have to be passed—more difficult than the current Extra class written exam—to offset the lack of an additional code test. (Consistent with the practice in many other countries, and with the Board's goal of license structure *simplification*, no additional Morse code examination would be required beyond 12 words per minute).

Hence, the Board's proposed structure will have four written exam elements instead of the present five, and two code el-

Table 3
Proposed Operator Licenses

Current License Class	Under ARRL proposal, changed to:	Benefit
Technician	Class D	No change in privileges.
Novice	Class C	Would gain *all* current General class privileges, including tl proposed expanded phone bands.
Technician Plus	Class C	Would gain *all* current General class privileges, including tl proposed expanded phone bands.
General	Class C	Would gain 3800-3850 kHz; 7200-7225 kHz; 21250-21300 in expanded phone band.
Advanced	Class B	Would gain 3725-3775 kHz; 7125-7150 kHz; 21175-21225 in expanded phone band.
Extra	Class A	Would gain 3700-3750 kHz; 7125-7150 kHz; 21150-21200 in expanded phone band.

ements instead of the present three.

Why 12 WPM code tests instead of the traditional 13 WPM? 12 WPM is pretty much the international standard, and the Board grabbed this opportunity to propose bringing the US in step with the rest of the world.

What's in it for Me?

How do additional privileges for all classes except Technician (which already has full privileges above 30 MHz) sound? See Table 3 to see how you would benefit under the ARRL proposal.

Gains at 80, 40 and 15 Meters—What About the Other Bands?

There would be no changes in subbands on the other bands, except that the Novice/Tech Plus subband on 10 meters would disappear because those licensees would have full privileges. Subbands available to General licensees would be available to Class C; subbands now reserved for Advanced and Extra would be available to Class B and Class A; and subbands reserved for Extra would be available to Class A.

Why Not Refarm all 200 kHz of the Novice Subbands for Phone?

On 40 meters, just half of the Novice band would be used for phone; the rest is needed to provide a place where digital mode operation can take place within ITU Region 2 (North and South America). This will reduce the burden on the band below 7100 kHz, where phone (outside the "lower 48" states) and CW operators now compete for spectrum with RTTY and data operators. On 15 meters, the lower half of the Novice band would remain available for digital operation as well as for slower-speed CW operation, which is how it is used throughout the world. The upper half is already used for phone outside the US.

Goodbye, Novice License?

For many veterans, the elimination of the Novice license is the end of an era that began in 1951. Could it be rejuvenated? There are two chances: slim and none. The original concept of the Novice license as a temporary learner's permit (the original Novice was good for one year and could not be renewed) was a good one in its day, and it might again be valuable in some form in the future. But, today's Novice test is a far cry from the old, simple, 20-question exam of yesteryear. The Novice question pool alone occupies more pages than did the entire *License Manual* for all classes of license in 1962. It's not the recruitment tool that it once was. There are too many activities today vying for the time of young people. We can't hold their attention long enough to bring them in through the existing Novice class license. It's time to say good-bye to the Novice license.

Novices won't be crying, however: under the ARRL proposal, along with Technician Plus licensees, when they are grandfathered to Class C, they gain HF privileges even greater than those conveyed by the current General class license. Generous? Yes, but on the other hand, if the goal is structural simplification, either someone has to lose privileges or someone has to gain.

Class A, B, and C—Haven't We Heard These Somewhere Before?

Old timers will recall that the Federal Radio Commission (which preceded the current FCC), in 1932, endorsed the basic license as Class A, B or C. All three classes required codes tests at 10 WPM (13 WPM after 1936). Class A conveyed exclusive phone use on 20 and 75 meters. It required one year of prior experience and a written test on phone and CW theory, and regulations. Class B and C conveyed all privileges except those reserved for Class A. Accordingly, the test was less comprehensive. Class C (conditional) license tests were furnished by mail for applicants living at least 125 miles away from quarterly FRC examination points.

These classes continued in effect until restructuring in 1951 resulted in the familiar names of the licenses we know today.

Difficult Decision for the Board

The Board proposal was not decided lightly. Board members debated a wide variety of options including both smaller and larger numbers of license classes, higher and lower qualification level different privileges. Nine of the 15 tors voted in favor of the plan, wi opposed to the particular plan favo the majority, but not necessarily op to change. Following the meeting President Rod Stafford, W6ROL served, "The debate was at times c tious and the result was not unani Some Board members preferred g simplification; others were uncomfc with some of the changes being prop

"However," Stafford emphasized ery Board member, without exceptic the meeting knowing that each of his colleagues did what they believe is b the future of Amateur Radio."

See also "It Seems to Us," on pag this issue.

Notes

[1]In 1990, the ARRL proposed a more codeless VHF license, the Commun that would have been an alternate r entry to that of the Novice. The Tech license would have been the upgrad from either the Communicator or N When the Technician became an entr license, the Novice license was no viable.

[2]Consistent with the Board's interest tha be no reduction in licensing standar reduction in the Extra class code requi would result in a corresponding incre difficulty of the written exam.

Strav

QST congratulates...

◊...Nathan "Chip" Cohen, N1IR, wh named a 1998 Discover Innovation A finalist for his work with fractal ant

OLD BRAZILIAN QSLs

◊ I am looking for old QSL cards (pr 1940) from Brazilian hams. I wish clude them in a CD-ROM that I am p ing about Amateur Radio activiti Brazil. Ronaldo Bastos Reis, PS7A Box 2021, Natal, RN 59094-970, E e-mail **ps8ab@summer.com.br**.

Amateur Radio Products 98ARD-1780 6070 Kestrel Road, Mississ

EXHIBIT D

By David Sumner, K1ZZ

ARRL Board Reaffirms, Fine-tunes Its Restructuring Proposal

ARRL directors have been busy since July 18, when the Board voted to propose the simplification of the amateur licensing structure in the United States. Comments from literally thousands of members began pouring in as soon as news of the Board's action was released. Some members liked the plan; some hated it; others offered alternatives ranging from slight modifications to wholesale revisions.

The FCC Makes its Move ...

September *QST*, the issue containing the details of the ARRL simplification plan, had not even reached members when the FCC on August 10 released a Notice of Proposed Rule Making (NPRM) on the same subject, in WT Docket No. 98-143. While styled as an NPRM, the Commission's document read more like a Notice of Inquiry (NOI) in that it asked more questions than it offered concrete proposals. Some members saw this as an indication that the FCC had a less sweeping simplification plan in mind, although this was not borne out by a careful reading of the document. Adding to the confusion, the FCC's NPRM contained a number of inconsistencies that were not corrected until the issuance of errata on August 31, after October *QST* and other magazines describing the NPRM had gone to press.

... And the ARRL Board Responds

With the comment deadline of December 1 drawing ever closer, Board members decided that the importance of the issues raised in the NPRM required the holding of a Special Meeting of the Board. The meeting was called for Saturday, October 24, in the central location of St. Louis. Before the meeting, ARRL General Counsel Chris Imlay, W3KD, prepared a draft response to the NPRM, based on the Board's prior actions, to serve as the starting point for discussion. Armed with this draft and with reams of members' comments, and having compared notes with one another by electronic mail throughout the three-month period, Board members trekked to St. Louis.

The day-long meeting began with a discussion of the objectives of license restructuring. Since the meeting was simply the latest step in a 2½-year process, the ideas expressed were not new but provided a checklist against which the concepts to be discussed later in the day could be measured. Board members said it was important not to reduce the privileges of any present licensees; testing should be related to privileges, and should place greater emphasis on operating practices as well as on current technologies; the number of license classes should be reduced (there was a spirited discussion of the merits of three vs. four classes, with the latter eventually prevailing as it had in July); the entry level license should be attractive to potential amateurs, and especially to younger

Table 1
A New Upgrade Path

Class	*Code Test*	*Written Examination*	*Privileges*
Technician	None	Operational and technical questions relevant to VHF/UHF	All amateur privileges, 50.0 MHz and above, and CW privileges (200 W) the HF segments shown in Table 2.
General (includes present Novice and Technician Plus)	5 WPM	Operational and technical questions relevant to HF	All amateur privileges except those reserved for Class A and B. Add 3800-3850 kHz; 7200-7225 kHz; 21250-21300 kHz to phone sub-bands.
Advanced	12 WPM	Similar to present Element 4A (Advanced)	All amateur privileges except those reserved for Class A. Add 3725-3775 kHz; 7125-7150 kHz; 21175-21225 kHz to phone sub-bands.
Extra	None	More advanced technical questions	All amateur privileges. Add 3700-3750 kHz; 7125-7150 kHz; 21150-21200 kHz to phone sub-bands.

Table 2

Everyone Gains Under the ARRL Proposal

License Class	*Benefit*
Technician	Would gain CW privileges (200 W) in the following segments: 3.525-3.700, 7.025-7.125, 10.100-10.150, 14.025-14.150, 18.068-18.110, 21.025-21.150, 24.890-24.930 and 28.000-28.300 MHz.
Novice	Would gain *all* current General class privileges, including the proposed expanded phone bands.
Technician Plus	Would gain *all* current General class privileges, including the proposed expanded phone bands.
General	Would gain 3800-3850 kHz; 7200-7225 kHz; 21250-21300 kHz in expanded phone bands.
Advanced	Would gain 3725-3775 kHz; 7125-7150 kHz; 21175-21225 kHz in expanded phone bands.
Extra	Would gain 3700-3750 kHz; 7125-7150 kHz; 21150-21200 kHz in expanded phone bands.

people; experimentation should be supported and encouraged; and rules that result in the underutilization of parts of some bands should be removed.

In July, the Board by a vote of 9 to 6 had agreed on a plan calling for four classes of amateur license. Because only 3% of new amateurs begin as Novices these days, the desirability of maintaining this traditional portal into Amateur Radio was outweighed by the fact that the present structure forces the 90% who enter as Technicians to pass a Novice written exam element that is largely irrelevant to the privileges they are seeking as Technicians. Therefore, the Board proposed to eliminate the Novice license. The first of the four surviving license classes would correspond to the present Technician, but with a more relevant written exam.

The second would approximately correspond to the present General, but with a 5 word per minute (WPM) Morse code exam in place of the present 13 WPM and an expanded written exam. With the lower code speed for General, the Technician Plus would no longer be needed. Presently licensed Novice and Technician Plus amateurs would be assimilated into this license class.

The third would correspond to the present Advanced, but with the Morse requirement changed from 13 to 12 WPM — admittedly a minor change, justified primarily by the fact that 12 WPM is the most common standard for a full-privilege amateur license in other countries.

The fourth would correspond to the present Amateur Extra, but with a more rigorous technical exam replacing the 20 WPM code test.

Under the ARRL plan, several HF phone bands could be expanded because there would no longer be a need for the so-called Novice bands. The details of the July plan are shown in September 1998 *QST*, p 48.

Fine Tuning the July Plan

On October 24, as they discussed the specifics of the Board's July plan and the FCC's NPRM, Board members found themselves in agreement that the bulk of the July plan was on target with the exception of two points. First, the redesignation of the license classes as D, C, B, and A had little support among the membership, so the Board decided to return to the names people seem comfortable with: Technician, General, Advanced, and Extra. Second, there was concern that eliminating the Novice license would make it more difficult for young people to get involved in Amateur Radio and would increase the sense of isolation between HF-oriented and VHF-oriented amateurs. To address the latter concern, the Board decided to propose limited HF privileges for Technician licensees: the use of CW emission only in the General Class band segments where phone is not permitted, with a transmitter power not exceeding 200 W.

Regarded as a rather radical concept when first introduced, the idea of HF CW privileges for "codeless" Technicians grew on Board members. CW operating privileges are self-limiting: You can't make use of them if you don't know how, and if you do know how, a test is redundant. International regulations simply require that a person seeking a license to operate below 30 MHz "shall prove that he is able to send correctly by hand and to receive correctly by ear, texts in Morse code signals." The FCC has already decided that the ability to receive Morse code implies the ability to send it. No minimum speed is specified in the international regulations. Finally, as every CW operator knows, the best way to become proficient in Morse code and to understand why some amateurs enjoy it so much is to use it on the air; listening to recordings is a poor substitute for an interactive experience.

In addition to reviewing its own proposals, the Board also addressed other questions raised by the FCC in its NPRM. To improve the Morse code tests, the Board proposed that the FCC rules ban multiple-choice Morse code tests and establish that a passing grade for a code test be either 70% correct answers to 10 fill-in-the-blank questions or one minute of solid copy out of five. The Board affirmed its proposals in RM-9196 to improve the procedures for granting Morse code exam credit on the basis of a physician's certification of a disability. The Board also supported retention of the topic definitions to be included in written exams, as contained in §97.503(c) of the FCC rules, with some modification to accommodate the new four-class structure. Under the proposed testing regime, the Technician exam would include 35 questions. Applicants for General would have to pass a 35-question test, up from the current 30 questions to include additional questions on operating practices. The Advanced exam would go from 50 questions to 40 under the proposal, while the Extra exam would go from 40 to 50 questions, including more highly technical subject matter. The proposed matrix of examination elements with the number of questions on each topic is shown in the minutes of the meeting on page 51.

The Board also reaffirmed its desire that Advanced class volunteer examiners be permitted to administer General class exams, and it renewed its request in RM-9115 for several rules changes involving RACES stations.

Focus on the Future

Perhaps the most important outcome of the October 24 meeting was that the resolution encompassing these positions was adopted unanimously. While the individual features of the plan were not necessarily embraced by every director, the complete package was one that everyone felt they could support.

One question raised in the NPRM was not addressed at the meeting: how the FCC can improve its enforcement processes as they relate to Amateur Radio. The Board's Enforcement Task Force is studying this issue separately and will offer recommendations for Board consideration in mid-November. Once there is agreement on how to handle this important issue, the League will file comments reflecting the Board's positions.

The Board members appreciate not only the quantity, but especially the quality of members' comments on the complex and difficult issues relating to license restructuring. By and large, members' focus is precisely where it should be: on the future. QST

APPENDIX

APPENDIX

Part 97 of Chapter I of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 97 - Amateur Radio Service

Section 97.5(b)(2) is revised to read as follows:

§97.5 Station license required.

* * * * *

(b) The types of station licenses are:

(1) * * *

(2) A club station license. A club station license is granted only to the person who is the license trustee designated by an officer of the club. The club must be composed of at least four persons and must have a name, a document of organization, management, and a primary purpose devoted to amateur service activities consistent with this Part. The club station license document is printed on FCC Form 660.

* * * * *

In Section 97.9, paragraphs (a) and (b) are revised to read as follows:

§97.9 Operator license.

(a) The classes of amateur operator licenses are: Technician, General, Advanced and Extra. A Novice Class or Technician Plus Class license issued by the Commission, until such license expires, is considered a General Class license. A person who has been granted an operator license is authorized to be the control operator of an amateur station with the privileges of the operator class specified on the license.

(b) A person who has been granted an operator license of Technician, General, or Advanced class and who has properly submitted to the administering VEs an application document, FCC Form 610, for an operator license of a higher class, and who holds a CSCE indicating that the person has completed the necessary examinations within the previous 365 days, is authorized to exercise the rights and privileges of the higher operator class until final disposition of the application or until 365 days following the passing of the examination, whichever comes first.

In Section 97.119, paragraph (f) is revised to read as follows:

§97.119 Station identification.

* * * * *

(f) When the control operator is a person who is exercising the rights and privileges authorized by §97.9(b) of this Part, an indicator must be included after the call sign to indicate the higher license class. For example, a control operator who has requested a license modification from Technician to General Class would include the slant mark (/) and the letters "AG" after the station call sign. A control operator who has requested a license modification to Advanced Class would include the slant mark and the letters "AA" after the station call sign. A control operator who has requested a license modification to Extra Class would include the slant mark and the letters "AE"

* * * * *

Section 97.201(a) is revised to read as follows:

§97.201 Auxiliary station.

(a) Any amateur station may be an auxiliary station. A holder of any class operator license may be the control operator of an auxiliary station.

* * * * *

In Section 97.203, paragraphs (a) and (b) are revised to read as follows:

§97.203 Beacon station.

(a) Any amateur station may be a beacon. A holder of an Amateur operator license may be the control operator of a beacon, subject to the privileges of the class of operator license held.

(b) A beacon must not concurrently transmit on more than 1 frequency in the same amateur service frequency band, from the same station location.

* * * * *

Section 97.205(a) is revised to read as follows:

§97.205 Repeater station.

(a) Any amateur station may be a repeater. A holder of any class operator license may be the control operator of a repeater, subject to the privileges of the class of operator license held.

* * * * *

In Section 97.301, paragraphs (a), (b), (c) and (d) are revised to read as follows, and paragraphs (e) and (f) are deleted.

§97.301 Authorized frequency bands.

The following transmitting frequency bands are available to an amateur station located within 50 km of the Earth's surface, within the specified ITU Region, and outside any area where the amateur service is regulated by any authority other than the FCC.

(a) For a station having a control operator of any operator license class:

Wavelength band	**ITU Region 1**	**ITU Region 2**	**ITU Region 3**	**Sharing requirements See §97.303, Paragraph:**
HF	*MHz*	*MHz*	*MHz*	
80 m	3.525-3.70	3.525-3.70	3.525-3.70	(a)
40 m	7.025-7.1	7.025-7.125	7.025-7.1	(a)
30 m	10.10-10.15	10.10-10.15	10.10-10.15	(d)
20 m	14.025-14.15	14.025-14.15	14.025-14.15	
17 m	18.068-18.110	18.068-18.110	18.068-18.110	
15 m	21.025-21.15	21.025-21.15	21.025-21.15	
12 m	24.89-24.93	24.89-24.93	24.89-24.93	
10 m	28.0-28.3	28.0-28.3	28.0-28.3	
VHF	*MHz*	*MHz*	*MHz*	

* * * * *

(b) For a station having a control operator who has been granted an Extra Class operator license:

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See §97.303, Paragraph:
MF	*kHz*	*kHz*	*kHz*	
160 m	1810-1850	1800-2000	1800-2000	(a), (b), (c)
HF	*MHz*	*MHz*	*MHz*	
80 m	3.50-3.70	3.50-3.70	3.50-3.70	(a)
75 m	3.70-3.80	3.70-4.00	3.70-3.90	(a)
40 m	7.0-7.1	7.0-7.3	7.0-7.1	(a)
30 m	10.10-10.15	10.10-10.15	10.10-10.15	(d)
20 m	14.00-14.35	14.00-14.35	14.00-14.35	
17 m	18.068-18.168	18.068-18.168	18.068-18.168	
15 m	21.00-21.45	21.00-21.45	21.00-21.45	
12 m	24.89-24.99	24.89-24.99	24.89-24.99	
10 m	28.0-29.7	28.0-29.7	28.0-29.7	

(c) For a station having a control operator who has been granted an Advanced Class operator license:

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See §97.303, Paragraph:
MF	*kHz*	*kHz*	*kHz*	
160 m	1810-1850	1800-2000	1800-2000	(a), (b), (c)
HF	*MHz*	*MHz*	*MHz*	
80 m	3.525-3.700	3.525-3.700	3.525-3.700	(a)
75 m	3.725-3.800	3.725-4.000	3.725-3.900	(a)
40 m	7.025-7.100	7.025-7.300	7.025-7.100	(a)
30 m	10.10-10.15	10.10-10.15	10.10-10.15	(d)
20 m	14.025-14.150	14.025-14.150	14.025-14.150	
-do-	14.175-14.350	14.175-14.350	14.175-14.350	
17 m	18.068-18.168	18.068-18.168	18.068-18.168	
15 m	21.025-21.150	21.025-21.150	21.025-21.150	
-do-	21.175-21.450	21.175-21.450	21.175-21.450	
12 m	24.89-24.99	24.89-24.99	24.89-24.99	
10 m	28.0-29.7	28.0-29.7	28.0-29.7	

(d) For a station having a control operator who has been granted a General Class operator license:

Wavelength band	**ITU Region 1**	**ITU Region 2**	**ITU Region 3**	**Sharing requirements See §97.303, Paragraph:**
MF	*kHz*	*kHz*	*kHz*	
160 m	1810-1850	1800-2000	1800-2000	(a), (b), (c)
HF	*MHz*	*MHz*	*MHz*	
80 m	3.525-3.700	3.525-3.700	3.525-3.700	(a)
75 m	—	3.800-4.000	3.800-3.900	(a)
40 m	7.025-7.100	7.025-7.125	7.025-7.100	(a)
-do-	—	7.200-7.300	—	(a)
30 m	10.10-10.15	10.10-10.15	10.10-10.15	(d)
20 m	14.025-14.150	14.025-14.150	14.025-14.150	
-do-	14.225-14.350	14.225-14.350	14.225-14.350	
17 m	18.068-18.168	18.068-18.168	18.068-18.168	
15 m	21.025-21.150	21.025-21.150	21.025-21.150	
-do-	21.250-21.45	21.250-21.45	21.250-21.45	
12 m	24.89-24.99	24.89-24.99	24.89-24.99	
10 m	28.0-29.7	28.0-29.7	28.0-29.7	

Section 97.305(c) is revised to read as follows:

§97.305 Authorized emission types.

(c) A station may transmit the following emission types on the frequencies indicated, as authorized to the control operator, subject to the standards specified in §97.307(f) of this part.

* * * * *

Wavelength band	**Frequencies**	**Emission Types Authorized**	**Standards See §97.307(f), paragraph:**
* * * * *			
HF:			
80 m	Entire band	RTTY, data	(3), (9)
75 m	Entire band	Phone, image	(1), (2)
40 m	7.000-7.125 MHz	RTTY, data	(3), (9)
-do-	7.075-7.100 MHz	Phone, image	(1), (2), (9), (11)
-do-	7.125-7.300 MHz	Phone, image	(1), (2)

30 m	Entire band	RTTY, data	(3) (9)
20 m	14.00-14.15 MHz	RTTY, data	(3), (9)
-do-	14.15-14.35 MHz	Phone, image	(1), (2)
17 m	18.068-18.110 MHz	RTTY, data	(3), (9)
-do-	18.110-18.168 MHz	Phone, image	(1), (2)
15 m	21.0-21.15 MHz	RTTY, data	(3), (9)
-do-	21.15-21.45 MHz	Phone, image	(1), (2)
12 m	24.89-24.93 MHz	RTTY, data	(3), (9)
-do-	24.93-24.99 MHz	Phone, image	(1), (2)
10 m	28.0-28.3 MHz	RTTY, data	(4), (9)
-do-	28.3-28.5 MHz	Phone, image	(1), (2)
-do-	28.5-29.0 MHz	Phone, image	(1), (2)
-do-	29.0-29.7 MHz	Phone, image	(2)

* * * * *

In Section 97.307(f), sub-paragraph (9) is amended to read as follows, and the text of (10) is deleted and redesignated as "Reserved":

§97.307 Emission standards.

* * * * *

(f) The following standards and limitations apply to transmissions on the frequencies specified in §97.305(c) of this Part.

* * * * *

(9) A station having a control operator holding a Technician Class operator license may transmit only a CW emission using the international Morse Code.

(10) Reserved.

* * * * *

In Section 97.313, paragraph (c) is modified to read as follows, (d) and (e) are deleted, paragraph (f) is revised, and paragraphs (f), (g) and (h) are re-numbered as (d), (e) and (f) to read as follows:

§97.313 Transmitter power standards.

* * * * *

(c) No station may transmit with a transmitter power exceeding 200 W PEP on the 3.525-3.700, 7.025-7.125, 10.100-10.150, 14.025-14.150, 18.068-18.110, 21.025-21.150, 24.890-24.930, or 28.000-28.300 MHz band when the control operator is a Technician operator.

(d) No station may transmit with a transmitter power exceeding 50 W PEP on the UHF 70 cm band from an area specified in footnote US7 to §2.106 of the FCC Rules, unless expressly authorized by the FCC after mutual agreement, on a case-by-case basis, between the EIC of the applicable field facility and the military area frequency coordinator at the applicable military base. An earth station or telecommand station, however, may transmit on the 435-438 MHz segment with a maximum of 611 W effective radiated power (1 kW equivalent isotropically radiated power) without the authorization otherwise required. The transmitting antenna elevation angle between the lower half-power (-3 dB relative to the peak or antenna bore sight) point and the horizon must always be greater than 10°.

(e) No station may transmit with a transmitter power exceeding 50 W PEP on the 33 cm band from within 241 km of the boundaries of the White Sands Missile Range. Its boundaries are those portions of Texas and New Mexico bounded on the south by latitude 31° 41' North, on the east by longitude 104° 11' West, on the north by latitude 34° 30' North, and on the west by longitude 107° 30' West.

(f) No station may transmit with a transmitter power exceeding 50 W PEP on the 219-220 MHz segment of the 1.25 m band.

Section 97.407(b) is revised to read as follows:

§97.407 Radio amateur civil emergency service.

* * * * *

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur service. In the event of an emergency which necessitates the invoking of the President's War Emergency Powers under the provisions of §706 of the Communications Act of 1934, as amended, 47 U.S.C. §606, RACES stations and amateur stations participating in RACES may transmit only on the following frequencies:

* * * * *

Section 97.501 is revised to read as follows:

§97.501 Qualifying for an amateur operator license.

Each applicant for the grant of a new amateur operator license or for the grant of a modified license to show a higher operator class, must pass or otherwise receive credit for the examination elements specified for the class of operator license sought:

(a) Extra Class operator: Elements 1(B), 2, 3, 4 and 5.

(b) Advanced Class operator: Elements 1(B), 2, 3 and 4.

(c) General Class operator: Elements 1(A) or 1(B), 2, and 3.

(d) Technician Class operator: Element 2.

Section 97.503 is revised to read as follows:

§97.503 Element standards.

(a) A telegraphy examination must be sufficient to prove that the examinee has the ability to send correctly by hand and to receive correctly by ear texts in the international Morse code at not less than the prescribed speed, using all the letters of the alphabet, numerals 0-9, period, comma, question mark, slant mark and prosigns AR, BT and SK. The format of such examinations must be either ten fill-in-the-blank questions per telegraphy examination element (a 70% score on which is the minimum passing grade), or the candidate must demonstrate one minute of solid copy of five minutes of telegraphy text sent.

(1) Element 1(A): 5 words per minute;

(2) Element 1(B): 12 words per minute.

(b) A written examination must be such as to prove that the examinee possesses the operational and technical qualifications required to perform properly the duties of an amateur service licensee. Each written examination must be comprised of a question set as follows:

(1) Element 2: 35 questions concerning the privileges of a Technician Class operator license. The minimum passing score is 26 questions answered correctly.

(2) Element 3: 35 questions concerning the additional privileges of a General Class operator license. The minimum passing score is 26 questions answered correctly.

(3) Element 4: 40 questions concerning the additional privileges of an Advanced Class operator license. The minimum passing score is 30 questions answered correctly.

(4) Element 5: 50 questions concerning the additional privileges of an Extra Class operator license. The minimum passing score is 37 questions answered correctly.

(c) The topics and number of questions required in each question set are listed below for the appropriate examination element:

Topics	Element:			
	2	3	4	5
(1) FCC Rules for the amateur radio services	7	5	5	8
(2) Amateur station operating procedures	5	9	2	5
(3) Radio wave propagation characteristics of amateur service frequency bands	3	3	2	3
(4) Amateur radio practices	5	4	4	5
(5) Electrical principles as applied to amateur station equipment	3	2	5	6
(6) Amateur station equipment circuit components	1	1	6	5
(7) Practical circuits employed in amateur station equipment	1	1	5	6
(8) Signals and emissions transmitted by amateur stations	2	2	5	6
(9) Amateur station antennas and feed lines	3	3	6	6
(10) Radiofrequency environmental safety practices at an amateur station	5	5	0	0

Section 97.505(a) is revised to read as follows:

§97.505 Element credit.

(a) The administering VEs must give credit as specified below to an examinee holding any of the following documents:

(1) An unexpired (or expired but within the grace period for renewal) FCC-granted Advanced operator license document: Elements 1(B), 2, 3, and 4.

(2)(A) An unexpired (or expired but within the grace period for renewal) FCC-granted General Class operator license document issued prior to (effective date of new rules): Elements 1(B), 2, and 3.

(2)(B) An unexpired (or expired but within the grace period for renewal) FCC-granted General Class operator license document issued on or after (effective date of new rules): Elements 1(A), 2, and 3.

(3) An unexpired (or expired but within the grace period for renewal) FCC-granted Technician Class operator license document (the holder of which has not passed or does not have credit for a telegraphy examination): Element 2.

(4) An unexpired (or expired but within the grace period for renewal) FCC-granted Novice or Technician Plus Class operator license document (including a Technician Class operator license granted before February 14, 1991 or a Technician Class operator license with proof of passage of a telegraphy examination): Elements 1(A), 2 and 3.

(5) A CSCE: Each element the CSCE indicates the examinee passed within the previous 365 days.

(6) An unexpired (or expired for less than 5 years) FCC-issued commercial radiotelegraph operator license document or permit: Element 1(B).

(7) An unexpired (or expired but within the grace period for renewal), FCC-granted Novice or Technician Plus (including a Technician Class operator license granted before February 14, 1991), Class operator license document, and a FCC Form 610 containing:

(i) A physician's certification stating that because the person is an individual with a severe handicap, the duration of which will extend for more than 365 days beyond the date of the certification, the person is unable to pass a 12 words per minute telegraphy examination; and

(ii) A release signed by the person permitting the disclosure to the FCC of medical information pertaining to the person's handicap: Element 1(B).

(b) * * * * *

Section 97.507(a) is revised to read as follows:

§97.507 Preparing an examination.

(a) Each telegraphy message and each written question set administered to an examinee must be prepared by a VE who has been granted an Extra Class operator license. A telegraphy message or written question set, however, may also be prepared for the following elements by a VE who has been granted an FCC operator license of the class indicated:

(1) Elements 1(B) and 3: Advanced Class operator.

(2) Elements 1(A) and 2: Advanced or General Class operator.

* * * * *

Section 97.509(b) is revised to read as follows:

§97.509 Administering VE requirements.

* * * * *

(b) Each administering VE must:

(1) Be accredited by the coordinating VEC;

(2) Be at least 18 years of age;

(3) Be a person who has been granted an FCC amateur operator license document of the class specified below:

(i) Extra, Advanced or General Class in order to administer a Technician Class operator license examination.

(ii) Extra or Advanced Class in order to administer an General or Technician Class operator license examination.

(iii) Extra Class in order to administer an Advanced Class operator license examination.

* * * * *